General Connector Corporation

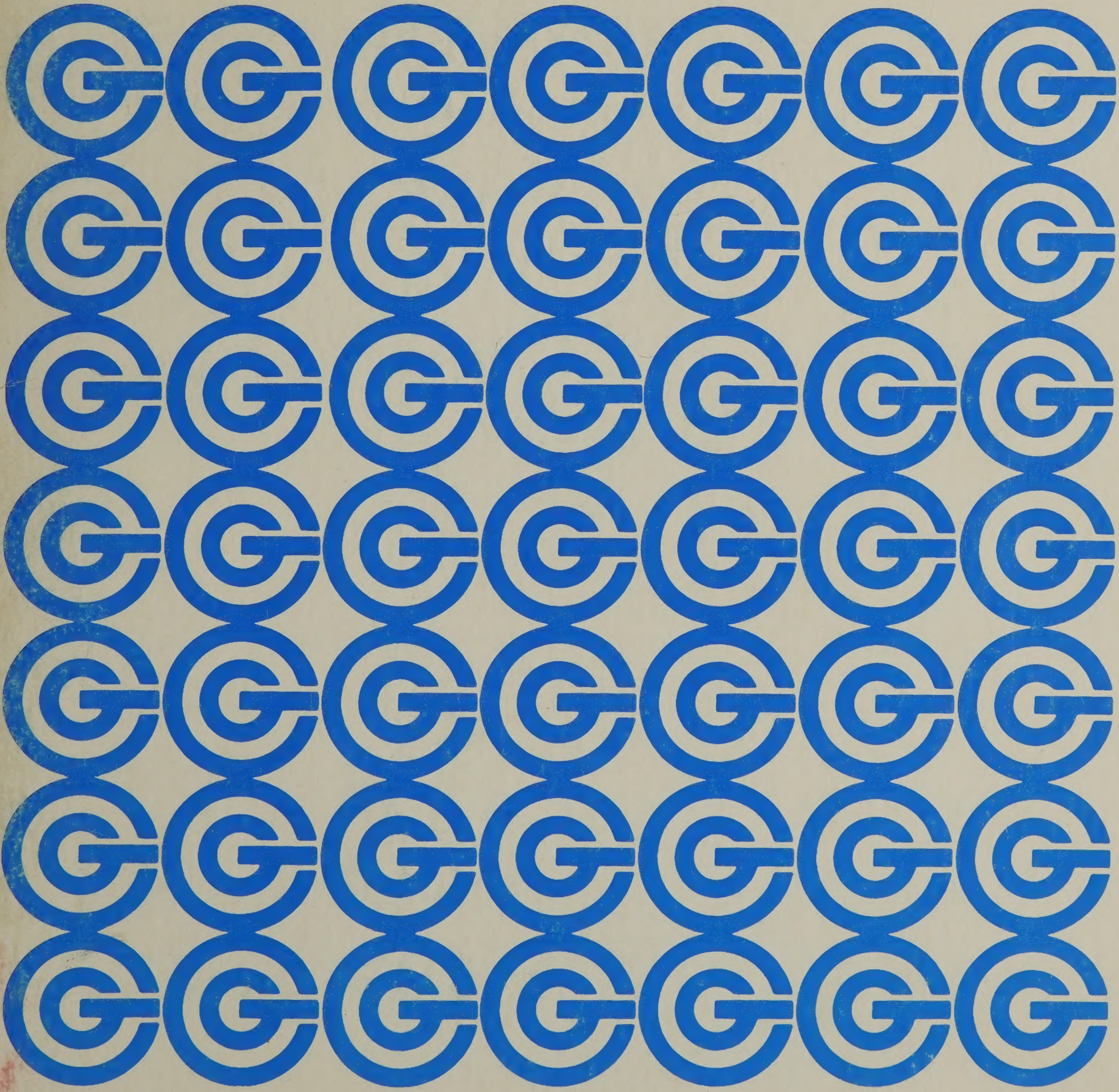


TABLE OF CONTENTS

Subminiature-Rectangular

General Information 4
G Series 6-9
GM Series 12-20
GMA Series 22-23
Panel Cutouts 24

Audio

General Information 26-27
5-Contact-Standard 28
5-Contact-Lightweight 29
6-Contact-Standard 30
6-Contact-Lightweight 31
7-Contact- Quick Disconnect 32
10-Contact 33-34

U-Type Multipurpose

General Information 36
U-226B/G, U-344/VRC, U-345/VRC 37
U-288/U, U-290/U, GC290R 38
U-291/U, U-289/U, U-393/U 39
U-318/U, U-316/U , U-317/U 40

Miscellaneous Components

General Information 42
Cable Assemblies 43
Battery Connector 43
Antenna Connector 43
Shorting Plugs 44
Dust Caps 44

Power

General Information 46
Material Finish & Specs 47
UW Series 48-49
MW Series 50-51

Relay Sockets

General Information 54
RE Series 55
Misc. 56

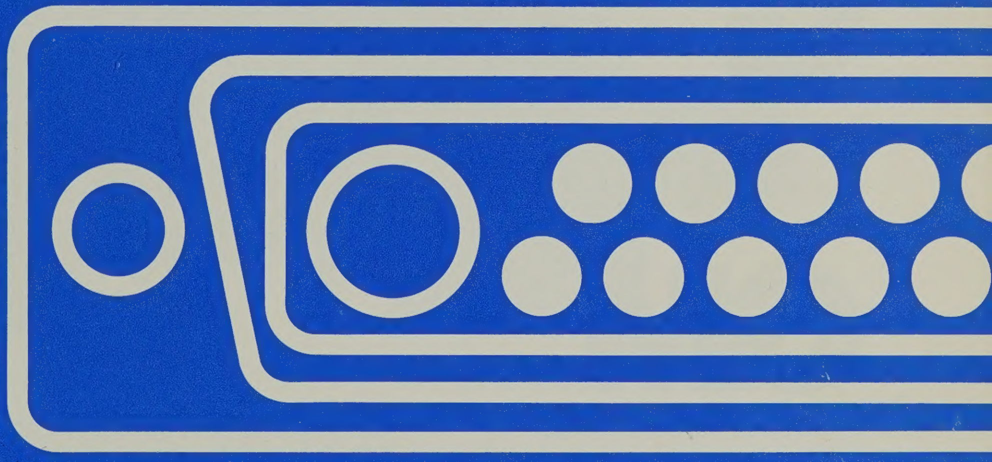
Filtered Contact Connectors

General Information 58
GC Series (5-Contact & 6-Contact) 58
Wiring Diagram 59
Nomenclature Key 59
GJ Series 60
Materials & Finishes 60
Nomenclature Key 61
Electrical Characteristics 61
Multi-Contact Connector 62

MIL-C-26482

General Information 64
Crimp Contact Tooling 64
Wire Terminations 64
Material, Finish & Specs. 65
Shell Types 66
Part Number Designation 67
Shell Size, No. of Contacts 68
Insert Arrangements 69
Dimensions 70-71

Subminiature Rectangular



SUB-RECTANGULAR

General Information

Subminiature rectangular connectors are provided in the three styles outlined below—are designed for rack and panel, cable to panel, and cable to cable connection. Space and weight-saving, reliable, able to accommodate a great number of circuits for their size and weight, they conform to MIL-C-24308 as indicated.

Housing is steel, cadmium plated with a yellow chromate finish. For non-magnetic applications—available in cadmium plated brass. Mounting may be fixed or floating. Polarization is accomplished by the keystone shape of the shell. Coupling is accomplished by contact friction although standard locking hardware may be used.

G

Fixed solder, printed circuit, or wire wrap contacts, two piece glass filled polyester insulator with closed entry socket contacts for maximum reliability.

Available in 5 shell sizes of 9, 15, 25, 37, or 50 #20 size contacts. Intermates with MIL-C-24308 connectors.

GM

Fixed solder or printed circuit contacts held in position by high-strength self-locking retainers. Monoblock glass filled diallyl phthalate insulator. Closed entry socket contacts for maximum reliability. Meets all requirements of MIL-C-24308. Provides greater temperature and moisture resistance than "G" series.

Contact arrangements for the #20 contacts include 9, 15, 25, 37 and 50 contacts per shell, in basic arrangements or with cavity provision for coaxial, power and/or high voltage contacts (see pages 13-20).

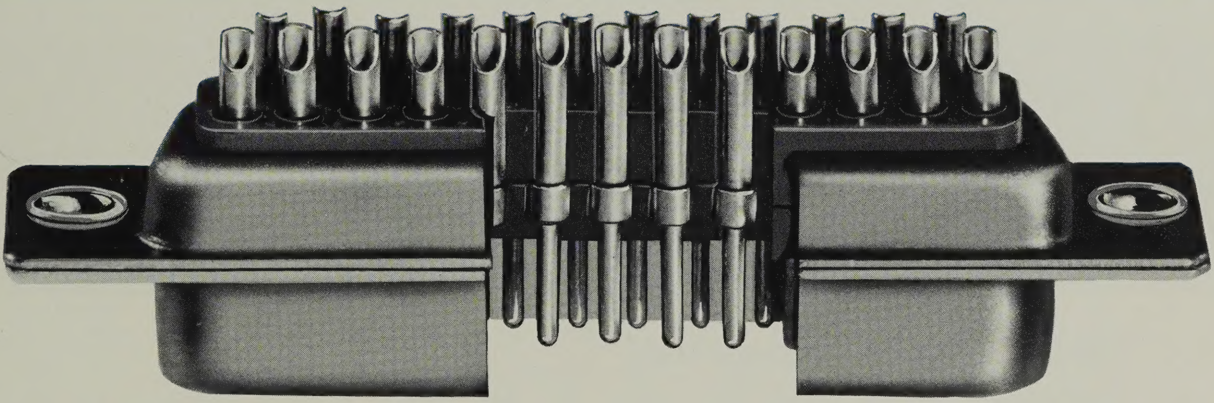
GMA

Features rear insertion type crimp contacts which are positively locked after insertion by a beryllium copper retention collet. These connectors meet all requirements of MIL-C-24308. Insulator is glass-filled diallyl phthalate.

Contact arrangements for the #20 contacts include 9, 15, 25, 37 and 50 contacts per shell. Connectors are completely intermatable with the same contact configurations in both the G & GM series.

SUB-RECTANGULAR

G



SUB-RECTANGULAR

G

General Information

The "G" series rectangular subminiature connectors utilize a two piece glass filled polyester insulator construction with fixed closed-entry contacts for maximum reliability at minimum cost. They are available in five shell sizes, E, A, B, C, and D with 9, 15, 25, 37 and 50 contacts, respectively. Fixed mounting and float mounting are available as required. Solder cup style terminations accommodate up to #20 AWG stranded wire.

Material & Finish

(Standard)*

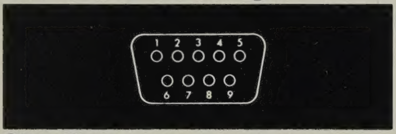
Shells	Steel, .0003 cadmium plate with yellow chromate coating
Socket Contacts	High-conductivity copper alloy, .000030 gold plate over .0001 copper plate.
Pin Contacts	Same as for socket contacts
Insulation	Glass filled polyester
Float Mount Hardware	Stainless Steel

Specifications

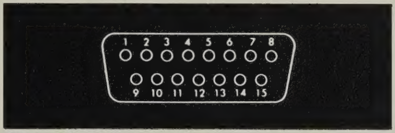
ELECTRICAL	
Voltage rating	1,000 VAC at sea level 325 VAC at 70,000 ft.
Current rating	5 amperes.
MECHANICAL	
Contact retention strength	Will not push out with 9 lbs. force in the direction of the mating forces.
Contact durability	No mechanical or electrical defects harmful to the operation of the connector after 500 engagement and disengagement cycles, per MIL-C-24308, Para. 3.5.10.
Contact engagement and separation force	.50 ounces min. with min. dia. pin. 12.0 ounces max. with max. dia. pin.
Operating temperature range	–65°F to +250°F
Vibration resistance	No interruption of electrical continuity longer than 1 microsecond, per MIL-STD 202, method 204, condition D.
Physical shock resistance	No damage or interruption of electrical conductivity longer than 1 microsecond, per MIL-STD 202, method 213, condition G.

*Contact plant for modifications.

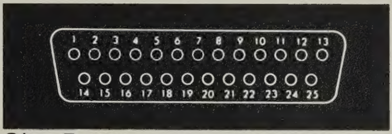
5 contact arrangements/Pin insert front



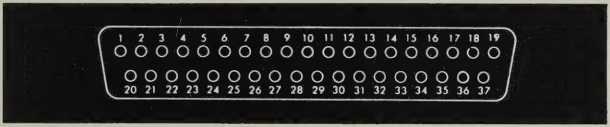
Size E/9 contacts



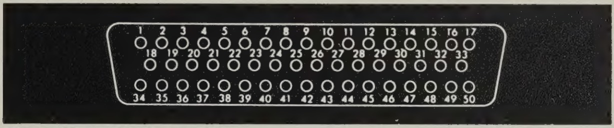
Size A/15 contacts



Size B/25 contacts

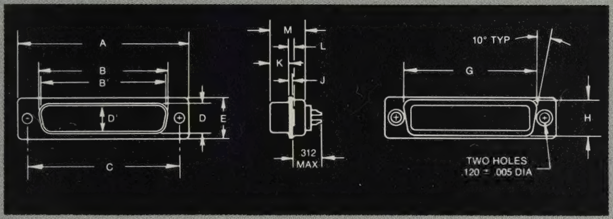


Size C/37 contacts

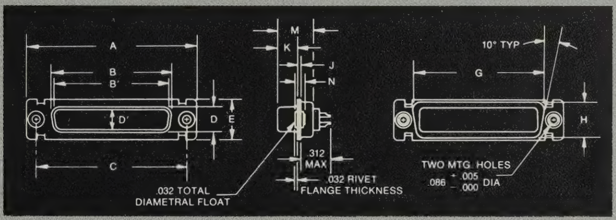


Size D/50 contacts

Dimensional tables



Fixed mounting shell



Float mounting shell

Part Number By Shell Size		A ±.015	B ±.005	B^1 ±.005	C ±.005	D ±.005	D^1 ±.005	E ±.015	G ±.010	H ±.010	J ±.010	K	L	M ±.010	N ±.010
GE-	P	1.213	–	.666	.984	–	.329	.494	.759	.422	.030	.238/.229	.060/.035	.422	.120
GE-	S	1.213	.643	–	.984	.311	–	.494	.759	.422	.030	.248/.238	.060/.035	.429	.120
GA-	P	1.541	–	.994	1.312	–	.329	.494	1.083	.422	.030	.238/.229	.060/.035	.422	.120
GA-	S	1.541	.971	–	1.312	.311	–	.494	1.083	.422	.030	.248/.238	.060/.035	.429	.120
GB-	P	2.088	–	1.534	1.852	–	.329	.494	1.625	.422	.039	.236/.224	.070/.050	.426	.129
GB-	S	2.088	1.511	–	1.852	.311	–	.494	1.625	.422	.030	.248/.238	.060/.035	.429	.120
GC-	P	2.729	–	2.182	2.500	–	.329	.494	2.272	.422	.039	.236/.224	.070/.050	.426	.129
GC-	S	2.729	2.159	–	2.500	.311	–	.494	2.272	.422	.030	.248/.238	.060/.035	.429	.120
GD-	P	2.635	–	2.079	2.406	–	.436	.605	2.178	.534	.039	.236/.224	.070/.050	.426	.129
GD-	S	2.635	2.064	–	2.406	.423	–	.605	2.178	.534	.030	.248/.238	.060/.035	.429	.120

Number designation system

G A - 15 P U
G B F - 25 S V

U V: Printed Circuit Terminal/Wire Wrap Modifier
P S: Contact type: pin or socket
15 25: Contact arrangement: 15 for 15-contact, 25 for 25-contact
F: Mounting Type
A B: Shell Size: E, A, B, C, or D
G G: Series Prefix.

Printed Circuit and Wire Wrap Termination information on page 8

Number designation system

```
G  A     -  15  P  U
G  B  F  -  25  S  V
```

Printed Circuit Terminal/Wire Wrap Modifier
Contact type: pin or socket
Contact arrangement: 15 for 15-contact, 25 for 25-contact
Mounting Type
Shell Size: E, A, B, C, or D
Series Prefix.

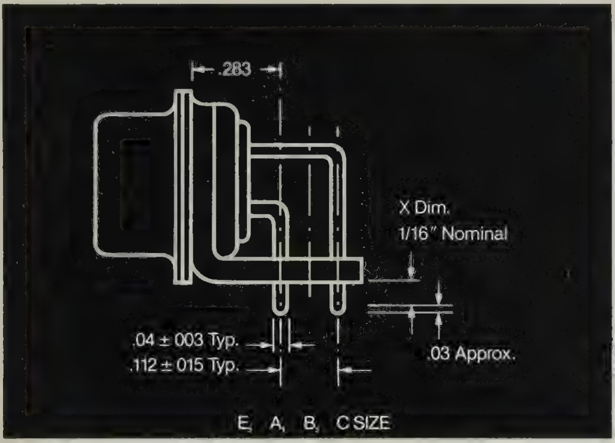
Mounting Type	No designation: standard .120 diameter mounting hole D—Dual float mount E—4-40 clinch nut for rear panel mounting F—Float mount for rear panel mounting G—2-56 clinch nut for rear panel mounting K—.154 diameter mounting holes R—Reverse float mount for front panel mounting
Printed Circuit Terminal Wire Wrap Modifier	A—Right-angle printed circuit connector with .040 diameter terminals, with bracket; accommodates printed circuit boards up to 1/16 maximum thickness. C—Right-angle printed circuit connector with .040 diameter terminals, without bracket; accommodates printed circuit boards up to 1/16 maximum thickness. U—Straight printed circuit connector with .024 diameter terminals, accommodates printed circuit boards up to .093 maximum thickness. V—Straight printed circuit connector with .040 diameter terminals; accommodates printed circuit boards up to 1/16 maximum thickness. Wrap Post Termination: F179 —2 wraps per termination F179A—3 wraps per termination F179B—1 wrap per termination

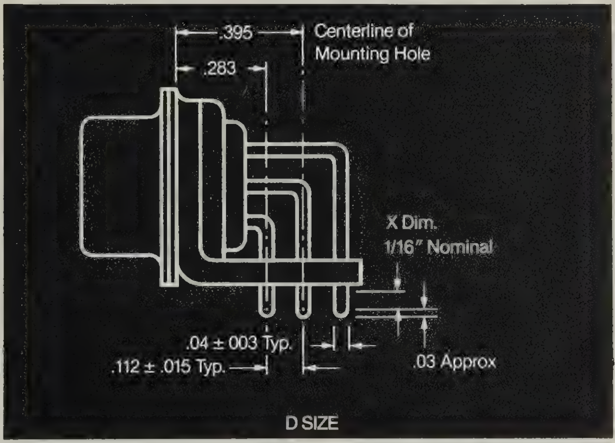
Printed Circuit Applications

Right Angle Termination

Connectors are furnished with or without a bracket. Spacer assemblies not supplied.

Printed Circuit Terminal Modifier	90° Bracket Included
A	Yes
C	No

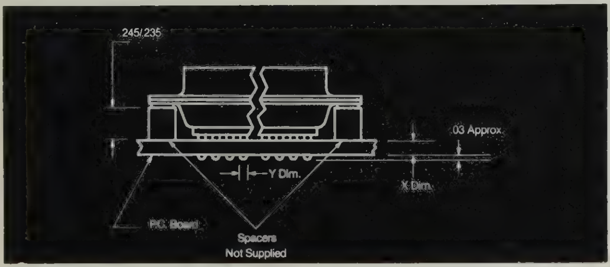




Straight Termination

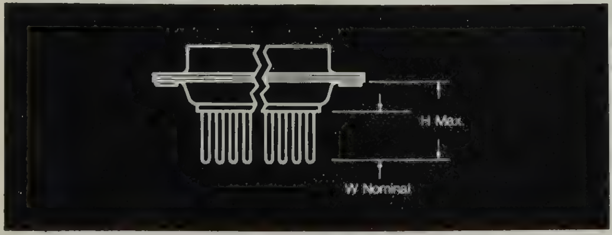
For printed circuit boards up to 1/16 maximum thickness the straight terminals extend 3/32 beyond the rear of the insert.

Printed Circuit Terminal Modifier	X Nominal	Y ± .003
U	3/32	.024
V	1/16	.04



NOTE: Recommended Contact Extensions
1/8 extension for 3/32 P.C. board
3/32 extension for 1/16 P.C. board

Wire Wrap Application



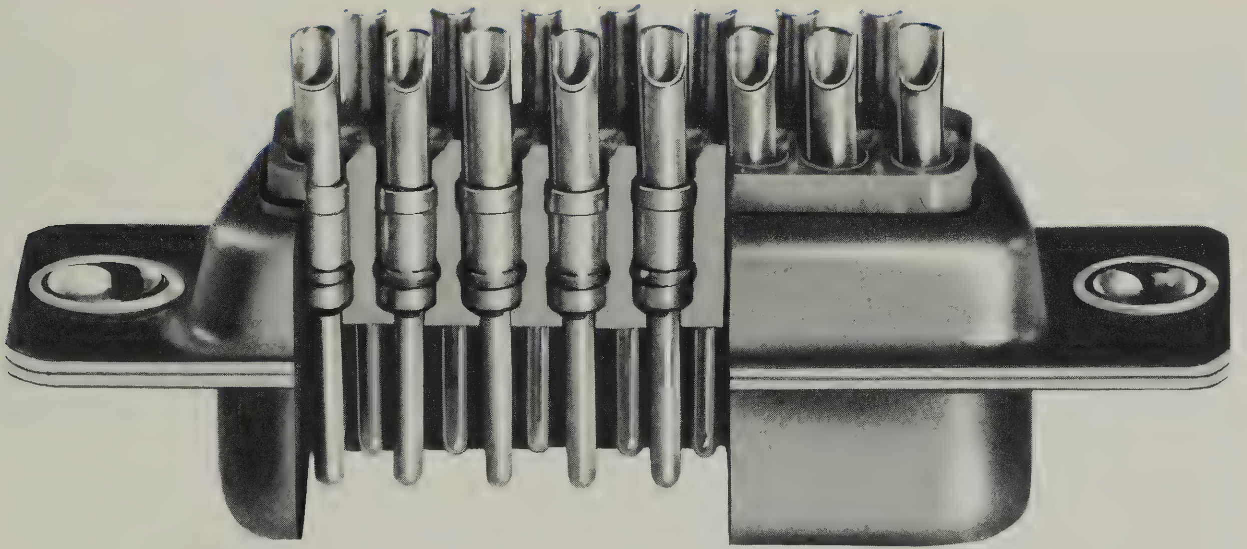
Modifier Code	H	W	Wrap Accommodations
F179	.587	.375	2
F179A	.713	.500	3
F179B	.465	.250	1

.024 square contact tails will accommodate #28 or #30 AWG rigid wire (diagonal of square is .034/.031).

SUB-RECTANGULAR

SUB-RECTANGULAR

GM



SUB-RECTANGULAR

General Information

The "GM" series rectangular subminiature connectors utilize a monoblock glass-filled diallyl phthalate insulator which provides excellent moisture and temperature characteristics. Standard solder contacts accommodating #20 AWG stranded wire are held in position by high strength self-locking retainers. These connectors are available in five shell sizes, E, A, B, C, & D with 9, 15, 25, 37 and 50 contacts respectively, meeting all requirements of MIL-C-24308. In addition, various contact arrangements are available with cavity provision for coaxial, hi-power, and/or hi-voltage contacts.

See Page 16 for printed circuit terminations.

Material & Finish
(Standard)*

Shells	Steel, 0003 cadmium plate with yellow chromate coating
Socket Contacts	High-conductivity copper alloy with spring clip, .000030** gold plate over .0001 copper plate.
Pin Contacts	Same as for socket contacts
Insulation	Glass filled diallyl phthalate monoblock
Float Mount Hardware	Stainless Steel

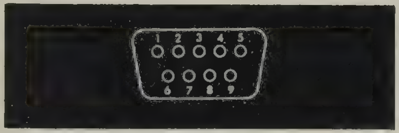
Specifications

ELECTRICAL	
Voltage rating	1,000 VAC at sea level 325 VAC at 70,000 ft.
Current rating	7.5 amperes max.
MECHANICAL	
Contact retention strength	Will not push out with 9 lbs. force in the direction of the mating forces.
Contact durability	No mechanical or electrical defects harmful to the operation of the connector after 500 engagement and disengagement cycles, per MIL-C-24308, Para. 3.5.10.
Contact engagement and separation force	.50 ounces min. with min. dia. pin. 12.0 ounces max. with max. dia. pin.
Operating temperature range	−65°F to +300°F
Vibration resistance	No interruption of electrical continuity longer than 1 microsecond, per MIL-STD 202, method 204, condition D.
Physical shock resistance	No damage or interruption of electrical conductivity longer than 1 microsecond, per MIL-STD 202, method 213, condition G.

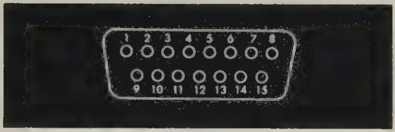
*Contact plant for modifications.

** .000050 on M24308/X-X connectors

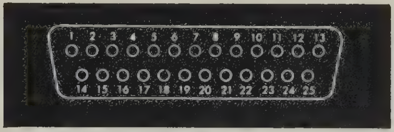
5 Basic #20 contact arrangements/Pin insert front



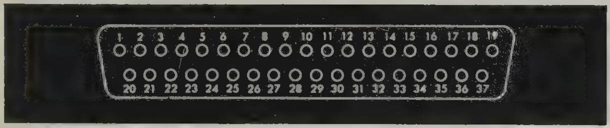
Size E / 9 contacts



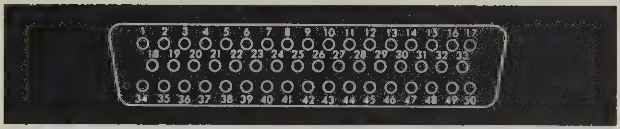
Size A / 15 contacts



Size B / 25 contacts

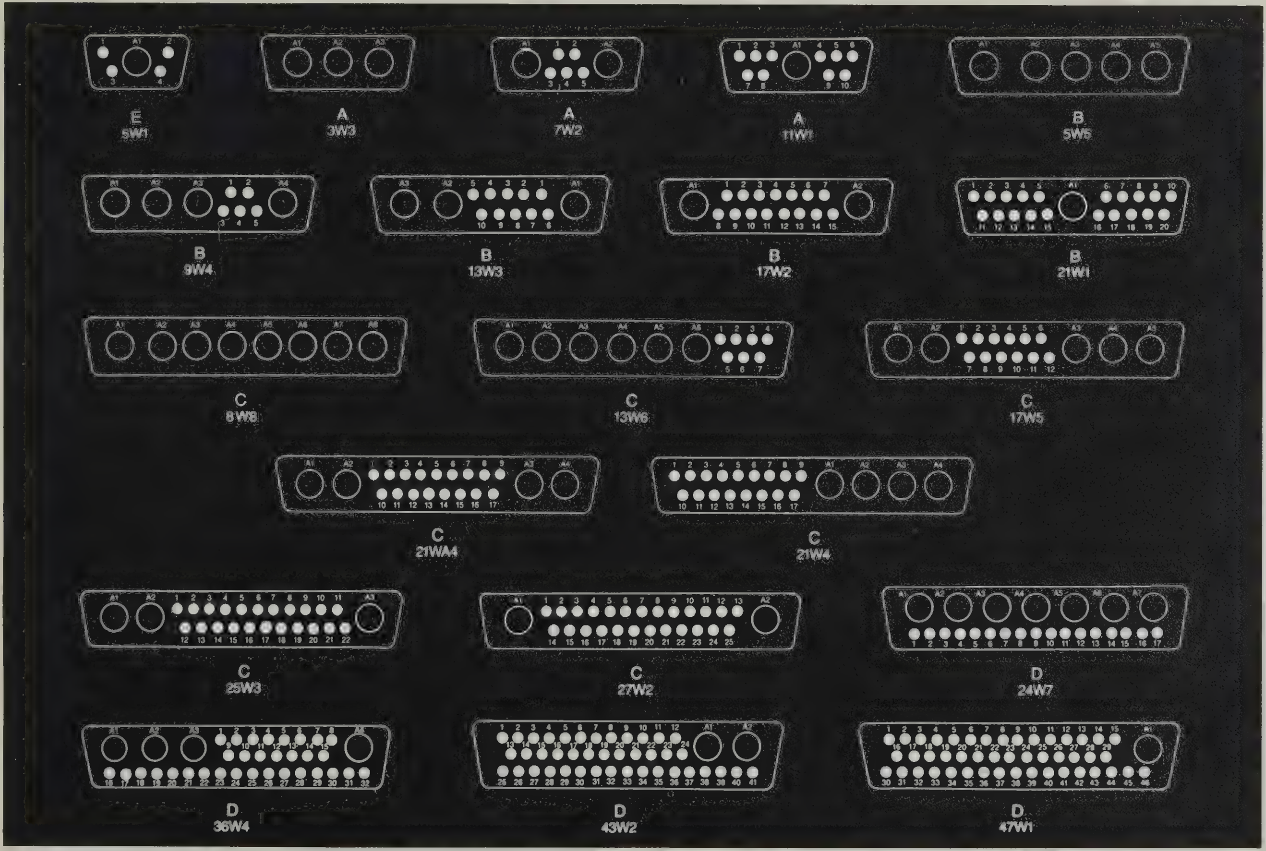


Size C / 37 contacts



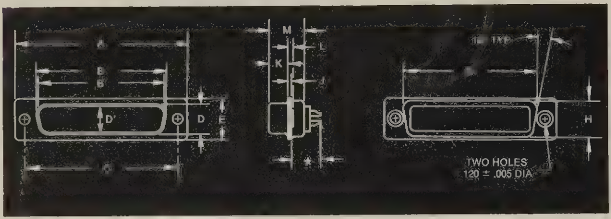
Size D / 50 contacts

20 Contact arrangements (combinations*)/Pin insert front



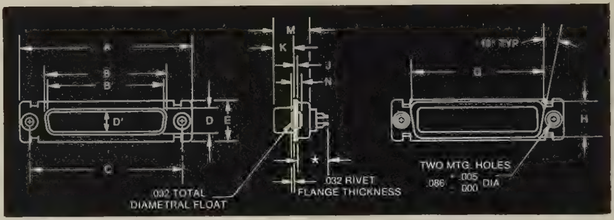
* The above contact arrangements have standard #20 contacts where shown and have cavities to accommodate coaxial, hi-power, and/or hi-voltage contacts. See pages 11-14, this section.

Dimensional tables



Fixed mounting shell

★ .422 Max. Pin Contacts
.390 Max. Socket Contacts



Float mounting shell

★ .422 Max. Pin Contacts
.390 Max. Socket Contacts

Part Number By Shell Size		A ±.015	B ±.005	B^{1} ±.005	C ±.005	D ±.005	D^{1} ±.005	E ±.015	G ±.010	H ±.010	J ±.010	K	L	M ±.010	N ±.010
GEM-	P	1.213	–	.666	.984	–	.329	.494	.759	.422	.030	.238/.229	.060/.035	.422	.120
GEM-	S	1.213	.643	–	.984	.311	–	.494	.759	.422	.030	.248/.238	.060/.035	.429	.120
GAM-	P	1.541	–	.994	1.312	–	.329	.494	1.083	.422	.030	.238/.229	.060/.035	.422	.120
GAM-	S	1.541	.971	–	1.312	.311	–	.494	1.083	.422	.030	.248/.238	.060/.035	.429	.120
GBM-	P	2.088	–	1.534	1.852	–	.329	.494	1.625	.422	.039	.236/.224	.070/.050	.426	.129
GBM-	S	2.088	1.511	–	1.852	.311	–	.494	1.625	.422	.030	.248/.238	.060/.035	.429	.120
GCM-	P	2.729	–	2.182	2.500	–	.329	.494	2.272	.422	.039	.236/.224	.070/.050	.426	.129
GCM-	S	2.729	2.159	–	2.500	.311	–	.494	2.272	.422	.030	.248/.238	.060/.035	.429	.120
GDM-	P	2.635	–	2.079	2.406	–	.436	.605	2.178	.534	.039	.236/.224	.070/.050	.426	.129
GDM-	S	2.635	2.064	–	2.406	.423	–	.605	2.178	.534	.030	.248/.238	.060/.035	.429	.120

Number designation system

G A M M - 15 P K
G B M M F - 17W2 S D

Printed Circuit Terminal Modifier — See P. 16
Contact type: pin or socket
Contact arrangement: 15 for 15-contact
17W2 for 15 contact, 2 cavity
Mounting Type
M: For connectors to MIL-C-24308 (.000050 gold)
Class: monoblock construction insulator
Shell Size: E, A, B, C, or D
Series Prefix.

These connectors are approved per MIL-C-24308 and the connectors are listed on the Qualified Product List (QPL). They may be ordered as follows:

M24308/X-X

No. of contacts, type, and shell size, e.g. 1–4; 3–3
Military designation

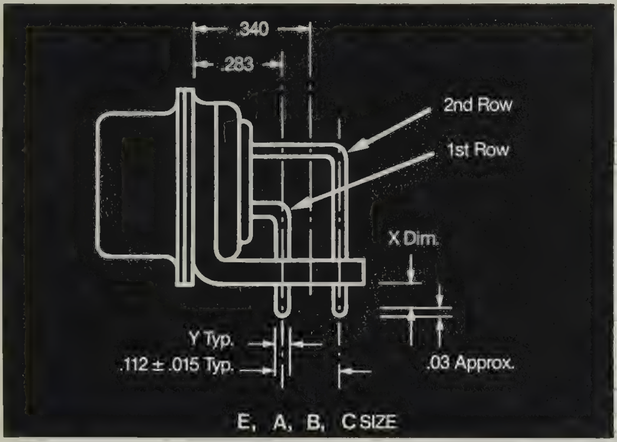
Mounting Type

No designation: standard .120 diameter mounting hole
D—Dual float mount
E—4-40 clinch nut for rear panel mounting
F—Float mount for rear panel mounting
G—2-56 clinch nut for rear panel mounting
K—.154 diameter mounting holes
R—Reverse float mount for front panel mounting

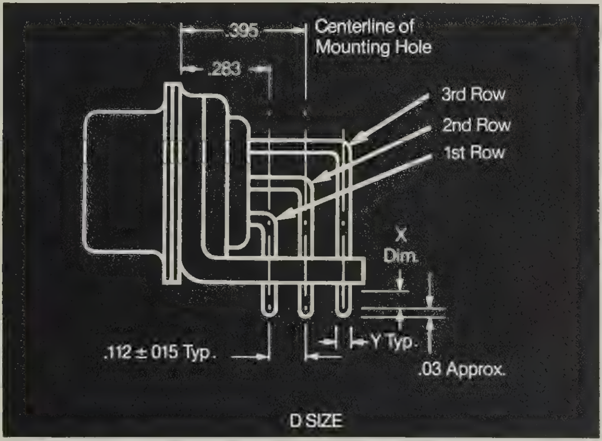
Printed Circuit Terminations

Right Angle Termination

Connectors are furnished with or without a bracket. Spacer assemblies not supplied.

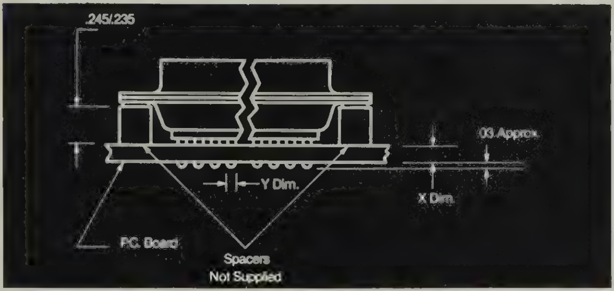


E, A, B, C SIZE



D SIZE

Straight Termination



Printed Circuit Terminal Modifier	X	Y ± .003
B	3/32	.04
E	3/32	.03
H	1/8	.04
M	1/8	.03

Printed Circuit Terminal Modifier Codes

					COMMERCIAL		MILITARY		
			BRACKET						
Code	Straight	Right Angle	With	W/O	± .020 Contact Ext.	Max. Board Thick	Contact Extension	Max. Board Thick.	Term. Dia.
* A	—	✓	✓	—	② .093	.062	② ④ .154/.099	.062	.040
B	✓	—	—	—	① .125	.093			.040
C	—	✓	—	✓	③ .093	.062			.040
* D	—	✓	✓	—	② .093	.062	② ④ .154/.099	.062	.030
E	✓	—	—	—	① .125	.093			.030
F	—	✓	—	✓	③ .093	.062			.030
* G	—	✓	✓	—	② .125	.093	② ④ .185/.130	.094	.040
H	✓	—	—	—	① .156	.094	① .185/.130	.094	.040
K	—	✓	—	✓	③ .125	.093			.040
* L	—	✓	✓	—	② .156	.125	② ④ .185/.130	.094	.030
M	✓	—	—	—	① .156	.094	① .185/.130	.094	.030
P	—	✓	—	✓	③ .156	.125			.030
R	—	✓	—	✓	③ .184	.156			.030
* S	—	✓	✓	—	② .184	.156	② ④ .210/.155	.125	.030
T	—	✓	—	✓	③ ⑤ .125	.093			.040
* W	—	✓	✓	—	② .156	.125	② ④ .210/.155	.125	.040
* X	✓	—	—	—	① .184	.156	① .210/.155	.125	.040
Y	—	✓	—	—	③ ⑤ .093	.062			.030
* Z	✓	—	—	—	① .184	.156	① .210/.155	.125	.030

*WHEN SUFFIX "M" IS USED ON COMMERCIAL DESIGNATORS
MILITARY CONTACT EXTENSION APPLIES

① FROM INSULATOR
② FROM BRACKET
③ FROM FLANGE
④ AVAILABLE, PIN SIDE ONLY
⑤ BELOW BOARD

SUB-RECTANGULAR

GM

CONTACTS:
COAXIAL/HI-VOLTAGE/HI-POWER

General Information

These contacts are designed for use with "GM" series rectangular connectors. Insertion is at the rear of the connector and removal is from the front, using standard tooling. Coaxial contacts and hi-voltage contacts are available in straight and right angle configurations. In addition, coaxial contacts may be assembled to the cable by soldering or crimping.

COAXIAL Material & Finish

Plug Shells	Copper alloy, .000030 gold plate* over .0001 copper plate
Receptacle Shells	Beryllium copper, .000030 gold plate* over .0001 copper plate
Socket Contacts	Phosphor bronze, .000030 gold plate* over .0001 copper plate
Pin Contacts	High conductivity copper alloy, .000030 gold plate* over .0001 copper plate
Insulators	Teflon

HI-VOLTAGE Material & Finish

Body	Nylon
Socket Contact	Phosphor bronze, .000030 gold plate* over .0001 copper plate
Pin Contact	High conductivity copper alloy, .000030 gold plate* over .0001 copper plate
Test Voltage	Sea level – 3300 VAC, 70,000 Ft. – 675 VAC

HI-POWER Material & Finish

Plug	Copper alloy, .000030 gold plate* over .0001 copper plate
Receptacle	Beryllium copper, .000030 gold plate* over .0001 copper plate
Current Rating	10, 20 & 40 AMPERES, DC

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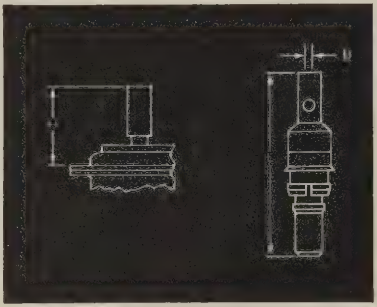
*.000050 available when specified; add –1 suffix to part number

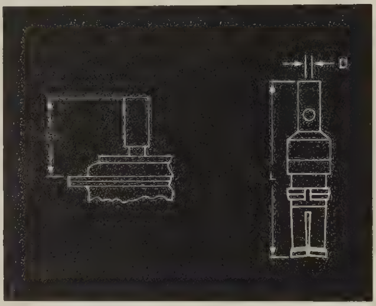
SUB-RECTANGULAR

Straight Plug



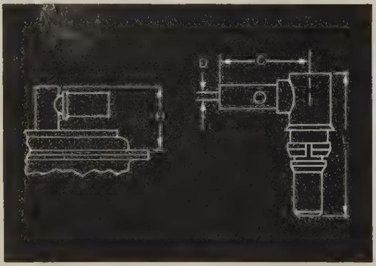
Part Number (Solder & Crimp)	D Dia ±.005	L Approx.	H Max.	RG Cable Number
GMX 1040SM*	.040	.860	.670	196/U, 178B/U
GMX 1040	.040	.929	.739	196/U, 178B/U
GMX 1067	.067	.929	.739	187/U, 188/U, 179B/U, 316B/U
GMX 1110	.110	1.037	.847	195/U, 180B/U
GMX 1125	.125	1.037	.847	58/U, 58B/U

Straight Receptacle



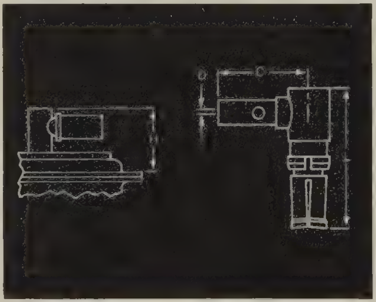
Part Number (Solder & Crimp)	D Dia ±.005	L Approx.	H Max.	RG Cable Number
GMX 3040SM*	.040	.860	.670	196/U, 178/U
GMX 3040	.040	.929	.739	196/U, 178B/U
GMX 3067	.067	.929	.739	187/U, 188/U, 179B/U, 316B/U
GMX 3110	.110	1.037	.847	195/U, 180B/U
GMX 3125	.125	1.037	.847	58/U, 58B/U

Right Angle Plug



Part Number (Solder & Crimp)	D Dia ±.005	L Approx.	C Approx.	H Max.	RG Cable Number
GMX 2040	.040	.734	.492	.530	196/U, 178B/U
GMX 2067	.067	.734	.492	.530	187/U, 188/U, 179B/U, 316B/U
GMX 2110	.110	.734	.601	.530	195/U, 180B/U
GMX 2125	.125	.734	.601	.530	58/U, 58B/U

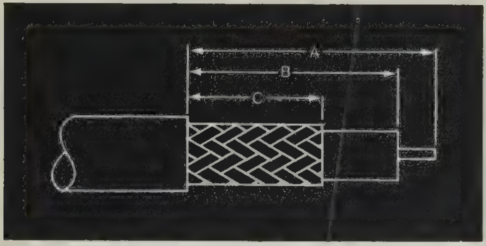
Right Angle Receptacle



Part Number (Solder & Crimp)	D Dia ±.005	L Approx.	C Approx.	H Max.	RG Cable Number
GMX 4040	.040	.734	.492	.530	196/U, 178B/U
GMX 4067	.067	.734	.492	.530	187/U, 188/U, 179B/U, 316B/U
GMX 4110	.110	.734	.601	.530	195/U, 180B/U
GMX 4125	.125	.734	.601	.530	58/U, 58B/U

* Solder only. For all other part numbers add suffix letter S for solder, C for crimp.

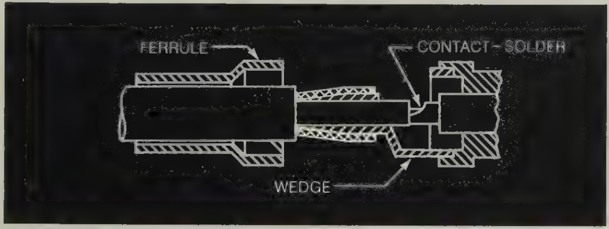
Coaxial Cables – Trimming & Crimping

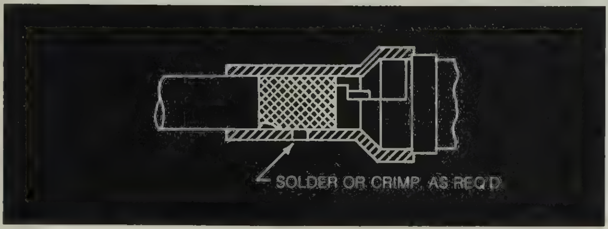


RG Cable Number	Contact Type	Trimming Dims. (±1/64)			Crimp Size	Thomas & Betts Crimp Tool No.
		A	B	C		
196/U, 178B/U	Straight	25/64	5/16	1/4	.105 Hex	WT 219
	Right Angle	7/16	3/8	15/64		
187/U, 188/U 179B/U, 316B/U	Straight	25/64	5/16	1/4	.128 Hex	WT 200
	Right Angle	7/16	3/8	15/64		
195/U, 180B/U	Straight	29/64	3/8	5/16	.213 Hex	WT 208
	Right Angle	33/64	27/64	5/16		
58/U, 58B/U	Straight	29/64	3/8	5/16	.213 Hex	WT 208
	Right Angle	33/64	27/64	5/16		

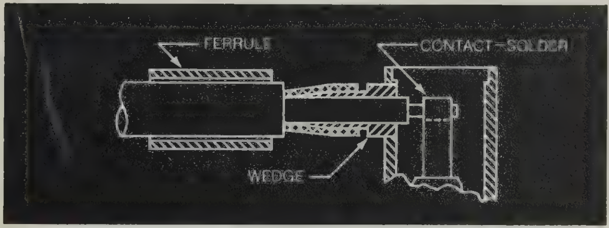
Assembly

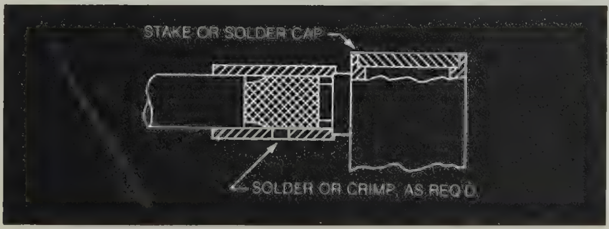
Straight





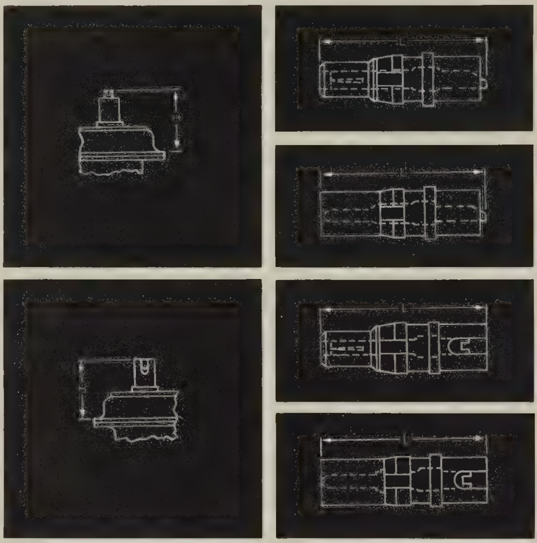
Right Angle





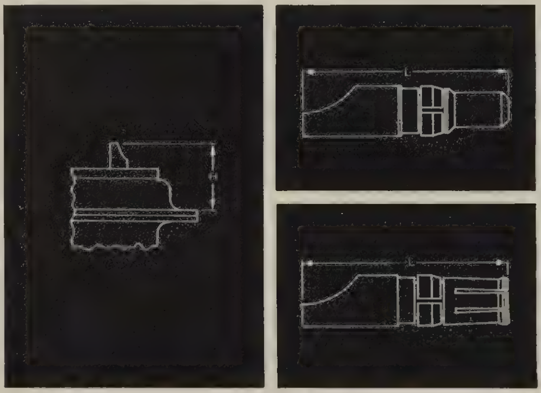
HI-VOLTAGE CONTACTS
HI-POWER CONTACTS

Hi-Voltage Contacts



Type	Part Number	L, ±1/64	H Max.	Wire Size
Straight Plug	GMV1	49/64	33/64	#20
Straight Recep.	GMV3	47/64		
Angle Plug	GMV2	49/64	7/16	
Angle Recep.	GMV4		15/32	

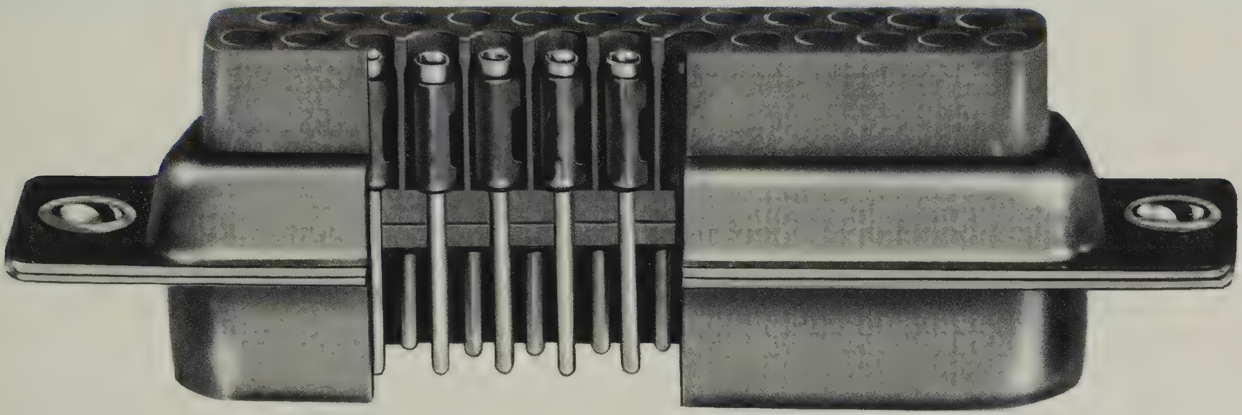
Hi-Power Contacts



Type	Part Number	L, ±1/64	H Max.	Current, Amperes	Wire Size
Plug	GMP 110	55/64	43/64	10	#16
	GMP 120			20	#12
	GMP 140			40	#8
Recep.	GMP 310			10	#16
	GMP 320			20	#12
	GMP 340			40	#8

SUB-RECTANGULAR

GMA



SUB-RECTANGULAR

GMA

General Information

The "GMA" series rectangular subminiature connectors provide all the advantages of the "GM" series, but with rear insertion/release removable #20 size contacts. Retention is achieved after insertion by means of beryllium copper collets. The connectors and contacts meet all requirements of MIL-C-24308. Five shell sizes are available, E, A, B, C & D with 9, 15, 25, 37 and 50 contacts respectively.

Crimp Features

Contacts conform to all requirements of MIL-C-24308 and will accommodate #20, #22, & #24 AWG stranded wires. Crimping is accomplished with MS3198-1 crimp tool and MS3198-5P locater. For installation and removal, use MS18271-1 tool.

Material & Finish
(Standard)*

Shells	Steel, .0003 cadmium plate with yellow chromate coating
Socket Contacts	Copper alloy with stainless steel sleeve, .000030** gold plate over .0001 copper plate.
Pin Contacts	Same as for socket contacts
Insulation	Glass-filled diallyl phthalate
Float Mount Hardware	Stainless Steel

Specifications

ELECTRICAL	
Voltage rating	1,000 VAC at sea level 325 VAC at 70,000 ft.
Current rating	7.5 amperes max.
MECHANICAL	
Contact retention strength	Will not push out with 9 lbs. force in the direction of the mating forces.
Contact durability	No mechanical or electrical defects harmful to the operation of the connector after 500 engagement and disengagement cycles, per MIL-C-24308, Para. 3.5.10.
Contact engagement and separation force	0.7 ounces min. with min. dia. pin. 18.0 ounces max. with max. dia. pin.
Operating temperature range	−65°F to +300°F
Vibration resistance	No interruption of electrical continuity longer than 1 microsecond, per MIL-STD 202, method 204, condition D.
Physical shock resistance	No damage or interruption of electrical conductivity longer than 1 microsecond, per MIL-STD 202, method 213, condition G.

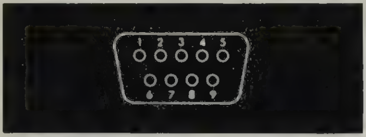
*Contact plant for modifications.

**.000050 on M24308/X-X connectors

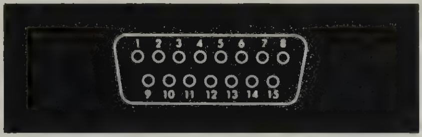
SUB-RECTANGULAR

GMA

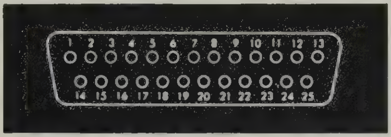
Contact arrangements / Pin insert front / #20 contacts



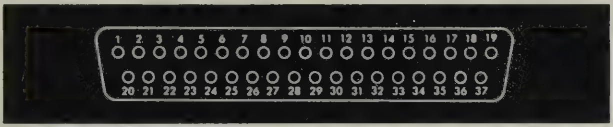
Size E / 9 contacts



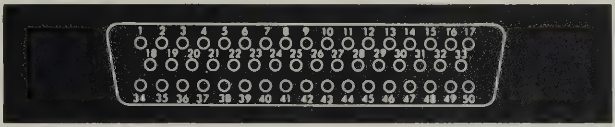
Size A / 15 contacts



Size B / 25 contacts

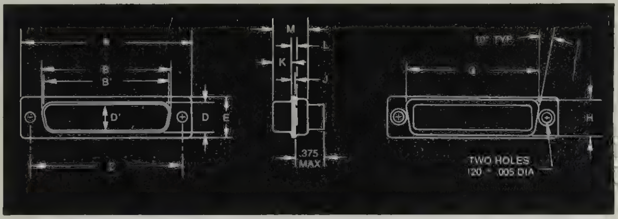


Size C / 37 contacts

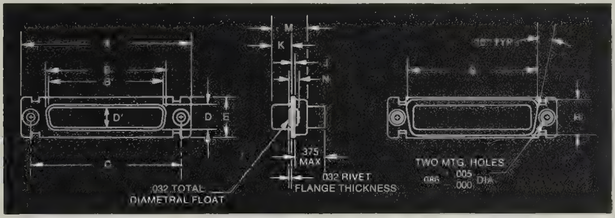


Size D / 50 contacts

Dimensional tables



Fixed mounting shell



Float mounting shell

Part Number By Shell Size	A ±.015	B ±.005	B' ±.005	C ±.005	D ±.005	D' ±.005	E ±.015	G ±.010	H ±.010	J ±.010	K	L	M ±.010	N ±.010
GEMA- P	1.213	—	.666	.984	—	.329	.494	.759	.422	.030	.238/.229	.060/.035	.422	.120
GEMA- S	1.213	.643	—	.984	.311	—	.494	.759	.422	.030	.248/.238	.060/.035	.429	.120
GAMA- P	1.541	—	.994	1.312	—	.329	.494	1.083	.422	.030	.238/.229	.060/.035	.422	.120
GAMA- S	1.541	.971	—	1.312	.311	—	.494	1.083	.422	.030	.248/.238	.060/.035	.429	.120
GBMA- P	2.088	—	1.534	1.852	—	.329	.494	1.625	.422	.039	.236/.224	.070/.050	.426	.129
GBMA- S	2.088	1.511	—	1.852	.311	—	.494	1.625	.422	.030	.248/.238	.060/.035	.429	.120
GCMA- P	2.729	—	2.182	2.500	—	.329	.494	2.272	.422	.039	.236/.224	.070/.050	.426	.129
GCMA- S	2.729	2.159	—	2.500	.311	—	.494	2.272	.422	.030	.248/.238	.060/.035	.429	.120
GDMA- P	2.635	—	2.079	2.406	—	.436	.605	2.178	.534	.039	.236/.224	.070/.050	.426	.129
GDMA- S	2.635	2.064	—	2.406	.423	—	.605	2.178	.534	.030	.248/.238	.060/.035	.429	.120

Number designation system

G A MA M - 15 P
G B MA M F - 25 S

Contact type: pin or socket
Contact arrangement: 15 for 15-contact
25 for 25 contact
Mounting Type — See P. 15
M: For connectors to MIL-C-24308 (.000050 gold)
Class: monoblock construction, rear release contacts
Shell Size: E, A, B, C, or D
Series Prefix.

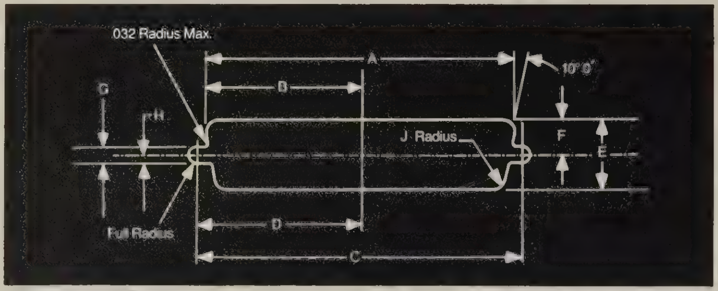
These connectors are approved per MIL-C-24308 and the connectors are listed on the Qualified Product List (QPL). They may be ordered as follows:

M24308/X-X

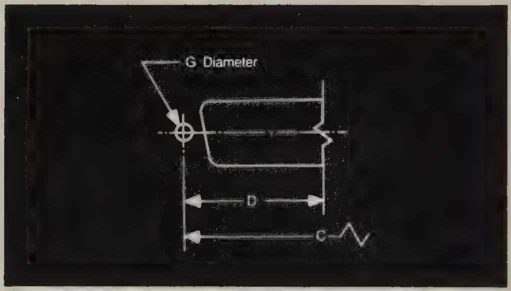
No. of contacts, type and shell size, e.g. 2-4; 4-3
Military Designation

G GM GMA

Panel Cutouts



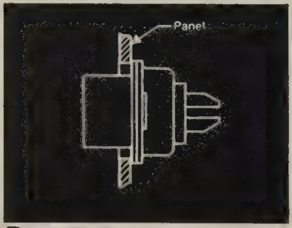
Standard Cutout



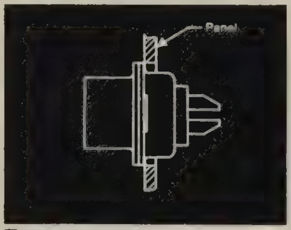
Optional Cutout for Rear Mounting

TYPE	MOUNTING	A ± .005	B ± .005	C ± .005	D ± .005	E ± .005	F ± .005	G ± .002	H ± .002	J ± .005
GE GEM GEMA	FRONT	.874	.437	.984	.492	.513	.257	.120	.060	.083
	REAR	.806	.403	.984	.492	.449	.225	.120	.060	.132
GEF GEMF GEMAF	FRONT	.906	.453	.984	.492	.545	.273	.088	.044	.083
	REAR	.838	.419	.984	.492	.481	.241	.088	.044	.132
GA GAM GAMA	FRONT	1.202	.601	1.312	.656	.513	.257	.120	.060	.083
	REAR	1.134	.567	1.312	.656	.449	.225	.120	.060	.132
GAF GAMF GAMAF	FRONT	1.234	.617	1.312	.656	.545	.273	.088	.044	.083
	REAR	1.166	.583	1.312	.656	.481	.241	.088	.044	.132
GB GBM GBMA	FRONT	1.743	.872	1.852	.926	.513	.257	.120	.060	.083
	REAR	1.674	.837	1.852	.926	.449	.225	.120	.060	.132
GBF GBMF GBMAF	FRONT	1.775	.888	1.852	.926	.545	.273	.088	.044	.083
	REAR	1.706	.853	1.852	.926	.481	.241	.088	.044	.132
GC GCM GCMA	FRONT	2.391	1.196	2.500	1.250	.513	.257	.120	.060	.083
	REAR	2.326	1.163	2.500	1.250	.449	.225	.120	.060	.132
GCF GCMF GCMAF	FRONT	2.423	1.212	2.500	1.250	.545	.273	.088	.044	.083
	REAR	2.354	1.177	2.500	1.250	.481	.241	.088	.044	.132
GD GDM GDMA	FRONT	2.297	1.149	2.406	1.203	.623	.312	.120	.060	.083
	REAR	2.218	1.109	2.406	1.203	.555	.276	.120	.060	.132
GDF GDMF GDMAF	FRONT	2.329	1.165	2.406	1.203	.655	.328	.088	.044	.083
	REAR	2.250	1.125	2.406	1.203	.587	.294	.088	.044	.132

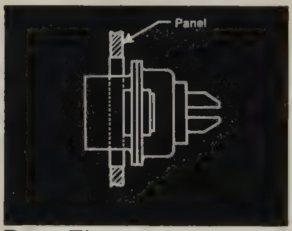
Mounting Methods



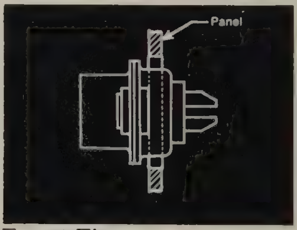
Rear



Front

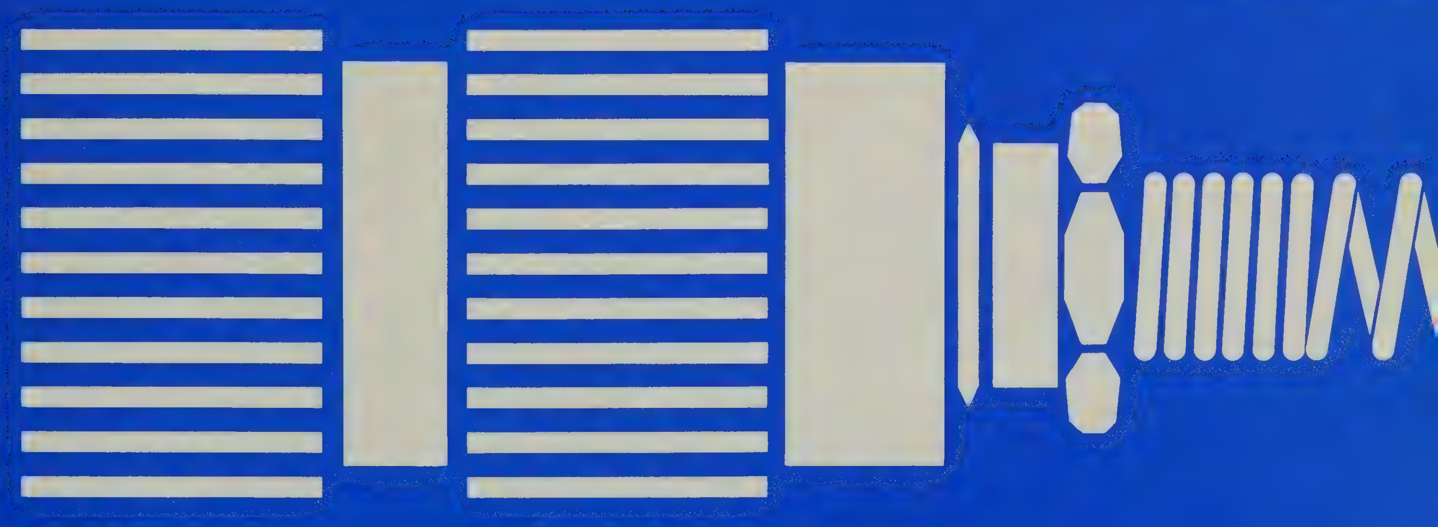


Rear Float



Front Float

Audio



General Information

5&6

These connectors are universally used in communications equipment where the highest reliability under the most severe environmental conditions are encountered. The standard 5-contact connectors meet all requirements of MIL-C-55116, latest revision. 6-contact connectors as well as the lightweight versions are designed to meet all performance requirements of MIL-C-55116.

Mating is accomplished quickly with a twist-lock motion. Non-rigid contacts are spring-loaded and provide positive electrical connection with minimum voltage drop.

7

This 7-contact connector mating pair offers quick-disconnect features, and is is used in conjunction with audio connectors.

10

The 10-contact connectors conform to MIL-C-10544, latest revision. Construction and mating action are similar to the 5-contact line. Years of successful field experience have proven the remarkable reliability of this line of connectors for all types of military and commercial communications equipment.

5 & 6 Contact Material & Finish

Shells	Stainless steel, passivated, sand-blasted
Panel Nuts	Stainless steel, passivated, sand-blasted
Contacts	Copper alloy, .000050 gold per MIL-G-45204, Type II, Class 1 over .00010 nickel
Insulators	Diallyl phthalate per MIL-M-14F, Type MDG

Specifications

ELECTRICAL	Dielectric Strength—500 V RMS Insulation Resistance—1000 Megohms, Min. Contact Resistance (Mated)—0.040 Ohms, Max.
MECHANICAL	Air Pressure—2.5 psi Immersion—48 hrs. at 6 ft. Durability—1500 cycles, mate and unmate

7 Contact Material & Finish

Shells	Aluminum, black anodize
Contacts	Copper alloy, .000030 gold per MIL-G-45204, Type II
Insulators	Diallyl phthalate per MIL-M-14F, Type MDG

10 Contact Material & Finish

Receptacle Shells	Stainless steel, passivated, sand-blasted
Plug shells	Stainless steel, black passivated
Plug rear housings	Aluminum, black anodize
Panel Nuts	Stainless steel, passivated, sand-blasted
Contacts	Copper alloy, .0002 silver
Insulators	Diallyl phthalate per MIL-M-14F, Type MDG

Specifications

ELECTRICAL	Dielectric Strength—500 V RMS Insulation Resistance—1000 Megohms, Min. Contact Resistance (Mated)—0.015 Ohms, Max.
MECHANICAL	Air Pressure—2.5 psi Immersion—48 hrs. at 6 ft. Durability—1500 cycles, mate and unmate

AUDIO

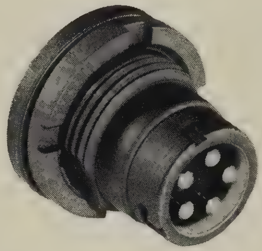
5-Contact – Standard per MIL-C-55116

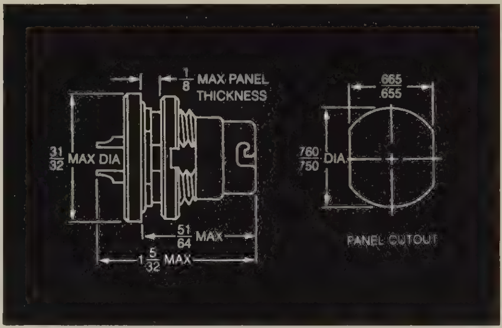
U-183/U

Receptacle

Spring-Loaded Contacts Solder Terminals

Mates with U-229/U, GC 217, & GC 217A



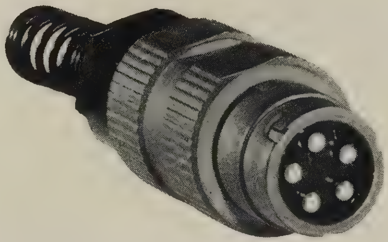


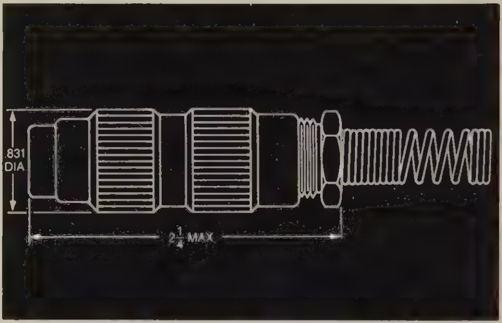
U-228/U

Plug

Spring-Loaded Contacts Barrel Pin Terminals*

Mates with U-229/U, GC 217 & GC 217A



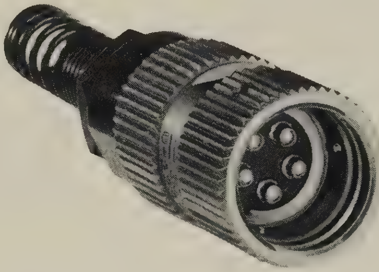


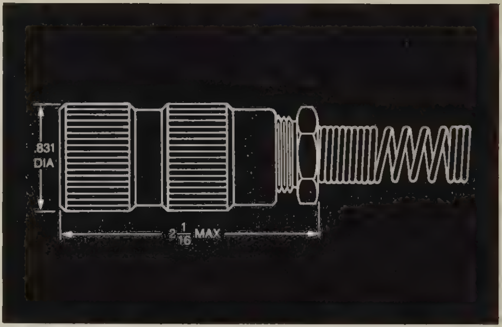
U-229/U

Plug

Rigid Contacts Barrel Pin Terminals*

Mates with U-183/U, U-228/U & GC 183S



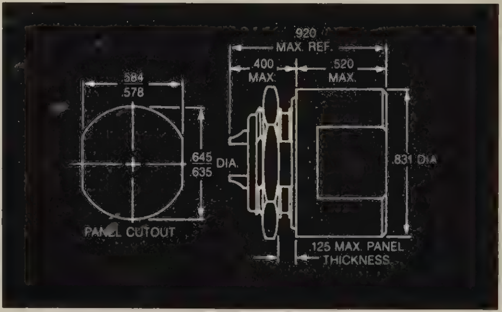


GC 429

Receptacle

Rigid Contacts Solder Terminals

Mates with U-183/U U-228/U & GC 183S

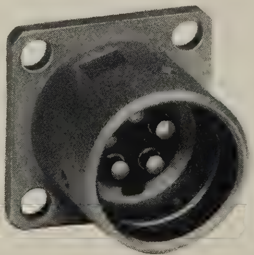


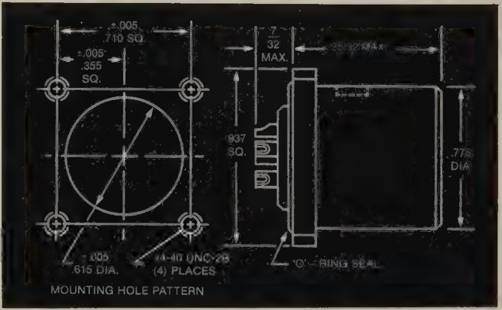
GC 629

Receptacle

Rigid Contacts Solder Terminals

Mates with: U-183/U U-228/U & GC 183S





*Solder pin terminals also available

AUDIO

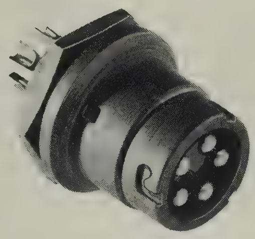
5-Contact—Lightweight (Conforms to MIL-C-55116)

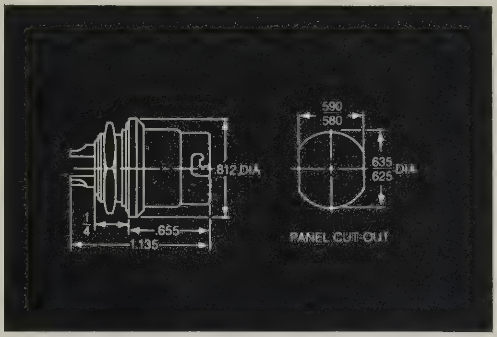
GC 183S

Receptacle

Spring-Loaded Contacts
Solder Terminals

Mates with:
U-229/U,
GC 217, &
GC 217A



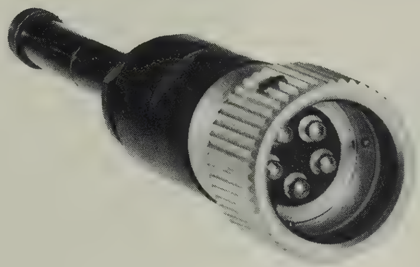


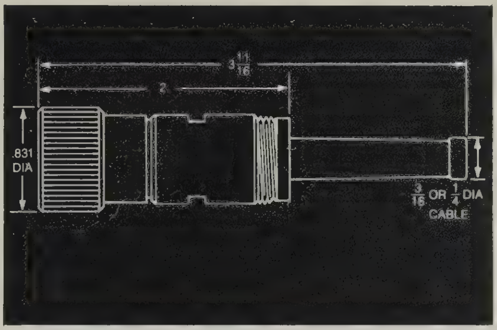
GC 217

Plug

Rigid Contacts
Solder Terminals*

Mates with:
U-183/U,
U-228/U, &
GC 183S



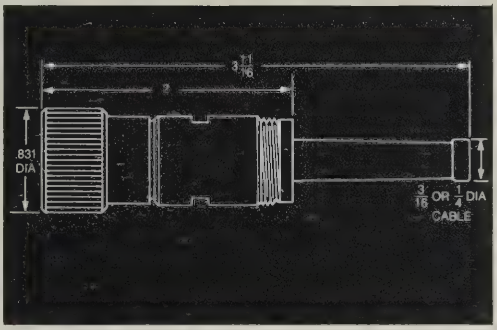


GC 217A**

Plug

Rigid Contacts
Solder Terminals

Mates with:
U-183/U,
U-228/U, &
GC 183S

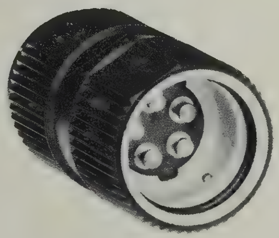


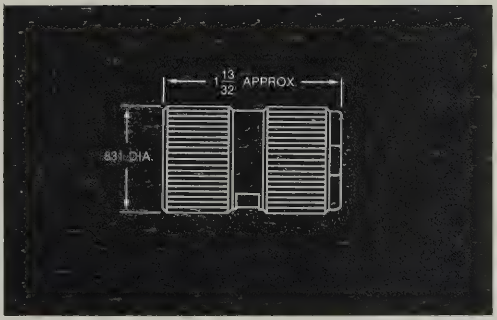
U-182B/U†

Plug

Rigid Contacts
Barrel Pin Terminals

Mates with:
U-183/U
U-228/U &
GC 183S





Weight in Ounces

5-Contact Standard	U-229/U 2.02	GC217 1.20	U-183/U 1.03
5-Contact Lightweight	U-182B/U 0.50	GC217A 0.81	GC183S 0.72

*Also available with barrel terminals.

**Shell material is aluminum.

†Shell material is glass filled nylon

AUDIO

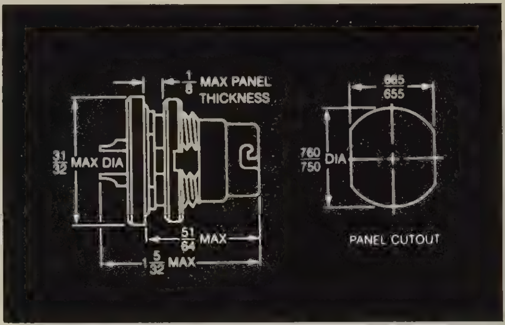
6-Contact – Standard (Conforms to MIL-C-55116)

GC 283

Receptacle

Spring-Loaded Contacts
Solder Terminals

Mates with
GC 329,
GC 617 &
GC 617A

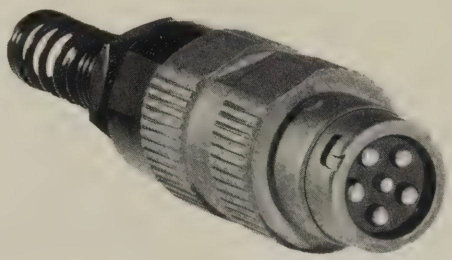


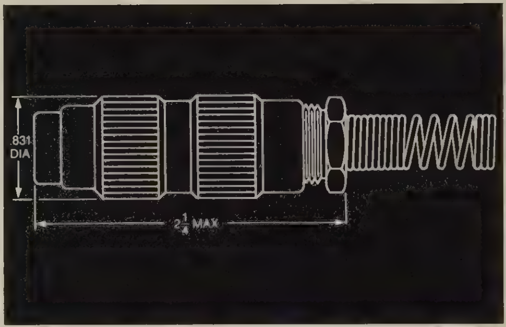
GC 328

Plug

Spring-Loaded Contacts
Solder Pin Terminals

Mates with
GC 329,
GC 617 &
GC 617A



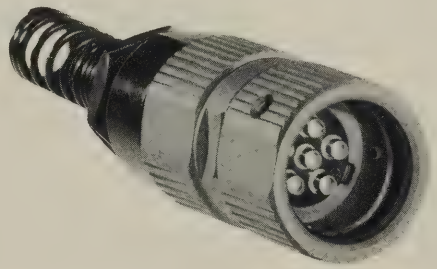


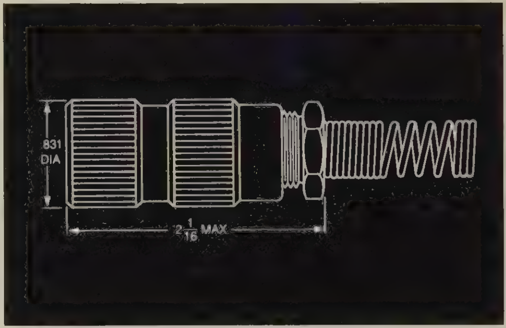
GC 329

Plug

Rigid Contacts
Barrel Pin Terminals*

Mates with
GC 283,
GC 328 &
GC 683S



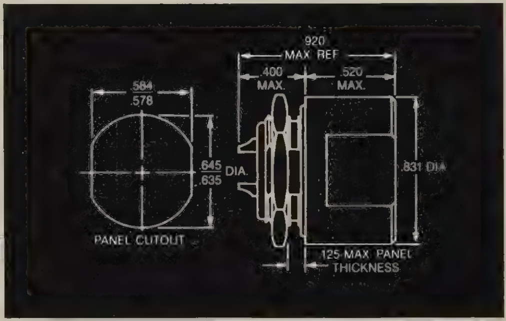


GC 529

Receptacle

Rigid Contacts
Solder Terminals

Mates with
GC 283
GC 328 &
GC 683S

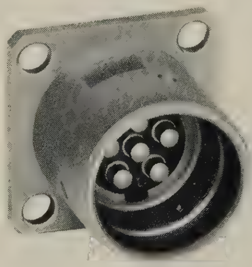


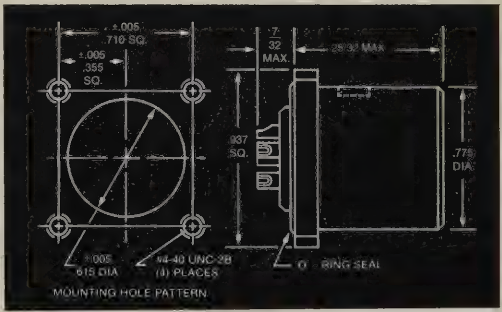
GC 729

Receptacle

Rigid Contacts
Solder Terminals

Mates with:
GC 283
GC 328 &
GC 683S





*Solder pin terminals also available

AUDIO

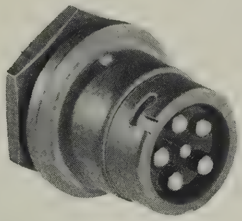
6-Contact – Lightweight (Conforms to MIL-C-55116)

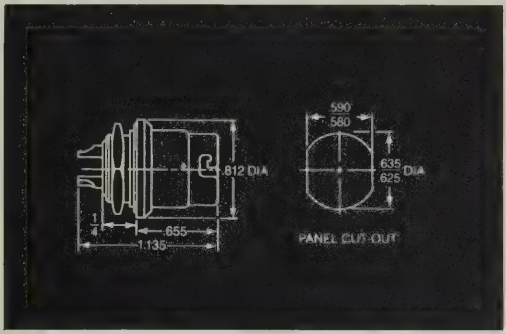
GC 683S

Receptacle

Spring-Loaded Contacts Solder Terminals

Mates with GC 329, GC 617 & GC 617A



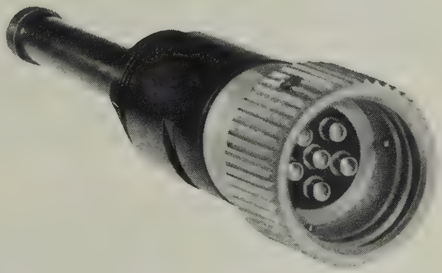


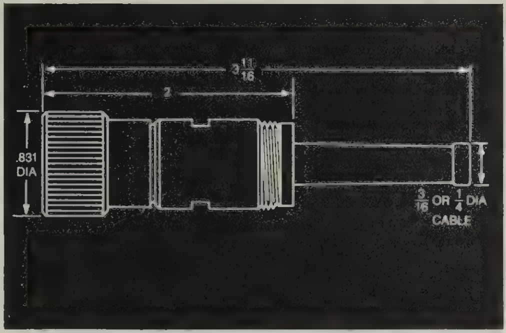
GC 617

Plug

Rigid Contacts Solder Terminals*

Mates with GC 283, GC 328 & GC 683S



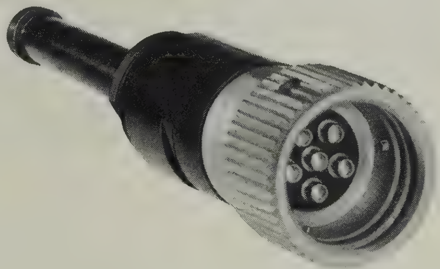


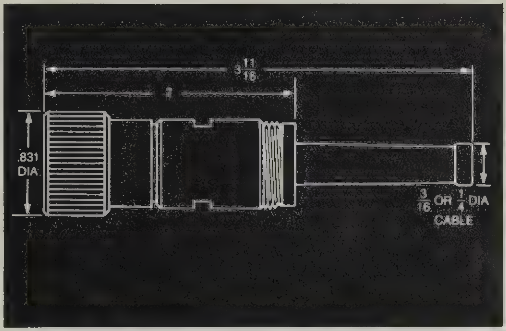
GC 617A**

Plug

Rigid Contacts Solder Terminals

Mates with GC 283, GC 328 & GC 683S



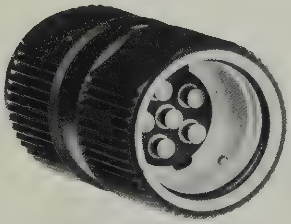


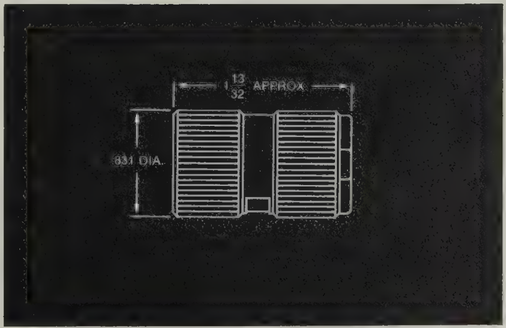
GC 682B†

Plug

Rigid Contacts Barrel Pin Terminals

Mates with: GC 283, GC 328 & GC 683S





Weight in Ounces

Six-Contact Standard	GC 329 2.01	GC 617 1.19	GC 283 1.04
Six-Contact Lightweight	GC 682B 0.49	GC 617A 0.80	GC 683S 0.73

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*Also available with barrel terminals.

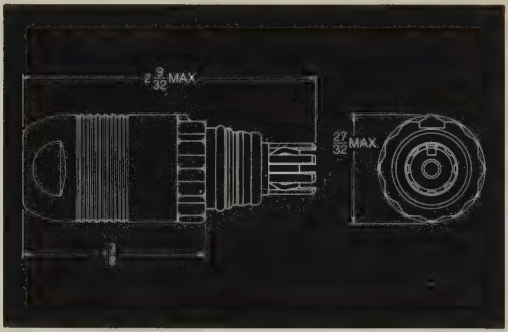
**Shell material is aluminum.

†Shell material is glass filled nylon

7-Contact-Quick Disconnect

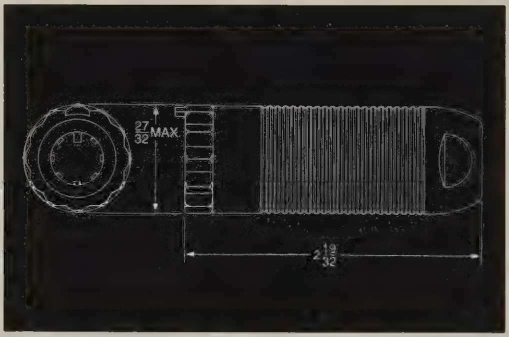
GC 107P

Plug
Cantilevered Contacts
Insulation-Piercing Terminals
(Mates with GC107J)



GC 107J

Jack
Rigid Contacts
Insulation-Piercing Terminals
(Mates with GC107P)



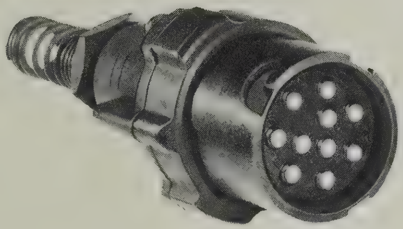
10-Contact per MIL-C-10544

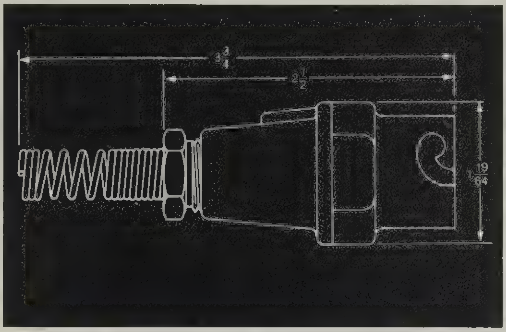
U-78/U

Plug

Non-Rigid
Spring-
Loaded
Contacts
Solder
Terminals

(Mates with
U-77/U,
U-126/U,
U-127/U,
U-161/U)

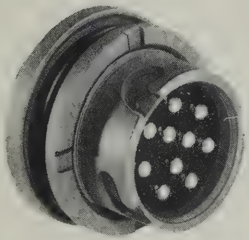


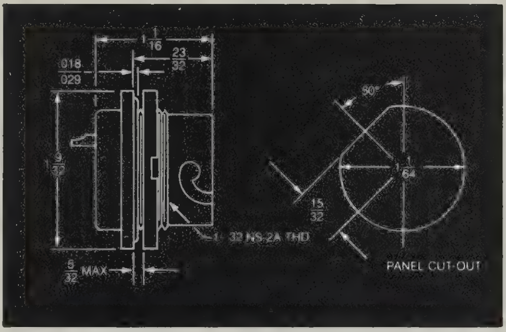


U-79/U Receptacle

Non-Rigid
Spring-
Loaded
Contacts
Solder
Terminals

(Mates with
U-77/U,
U-127/U,
U-161/U)



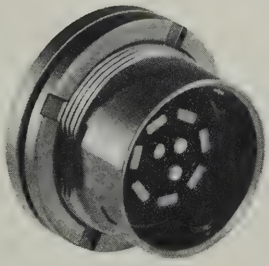


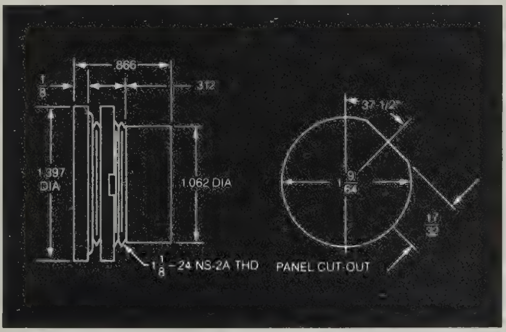
U-126/U

Receptacle

Rigid
Contacts
Solder
Terminals

(Mates with
U-78/U)

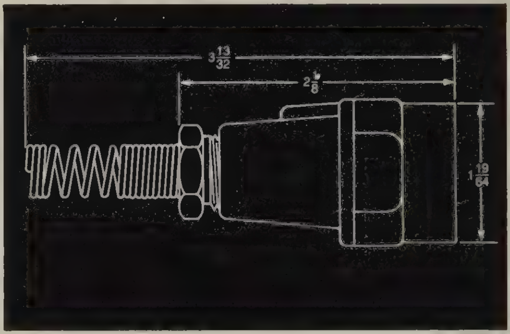




10-Contact per MIL-C-10544

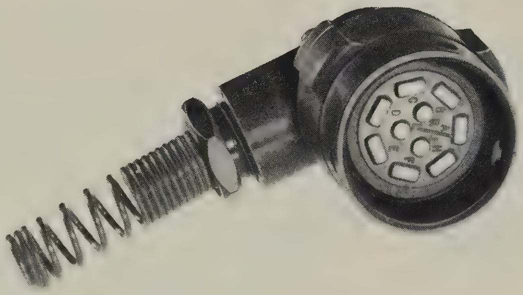
U-77/U

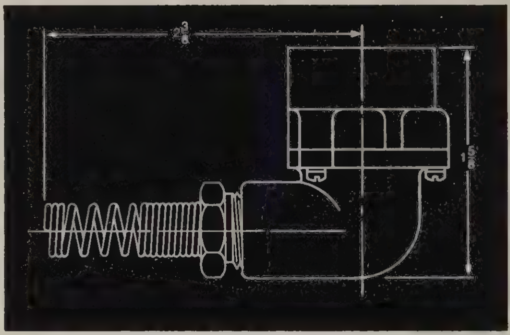
Plug
Rigid
Contacts
Solder
Terminals
(Mates with
U-78/U or
U-79/U)



U-127/U

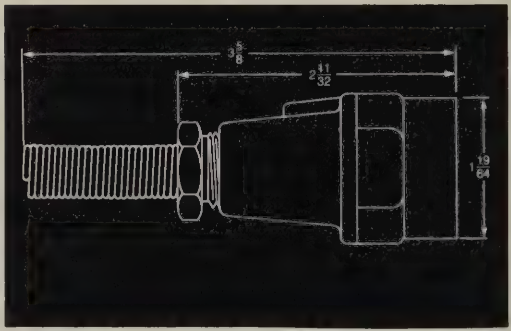
Plug
Rigid
Contacts
Solder
Terminals
(Mates with
U-78/U or
U-79/U)



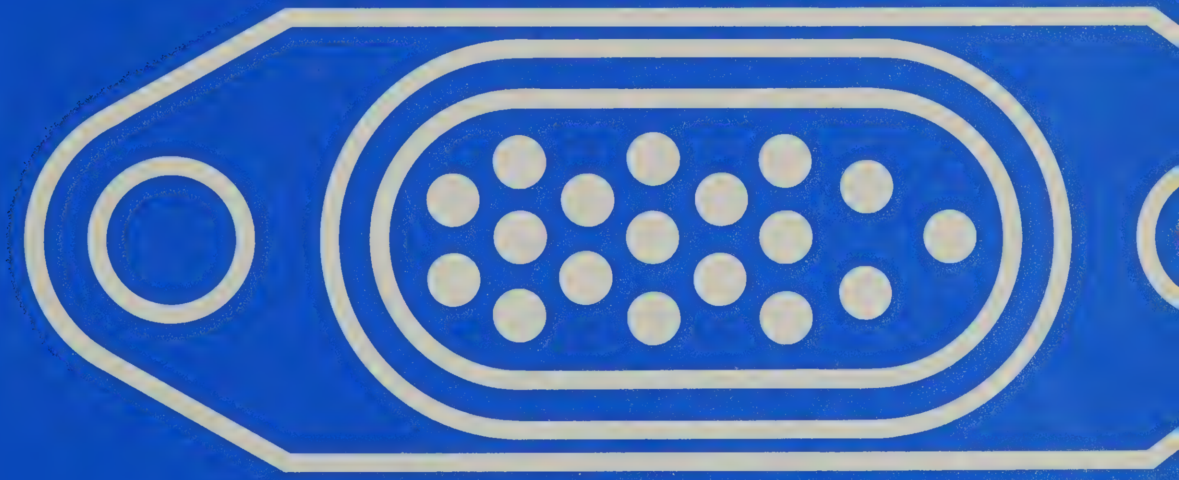


U-161/U

Plug
Rigid
Contacts
Taper Pin
Terminals
(Mates with
U-78/U or
U-79/U)



U-Type Multipurpose



U-TYPE MULTIPURPOSE

General Information

The following U-type connectors are used in a great variety of military communications equipment and cable assemblies.

Some specific applications are listed.

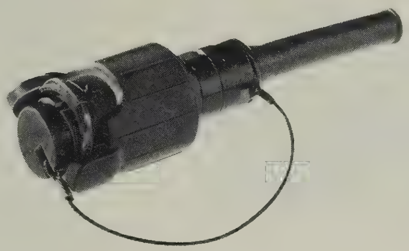
Designation	Typ. Equip Application	Mil. Spec. or Dwg. No.	Description
U-226B/G	5 pair cable, WC-534	MIL-C-55459A(EL)	Hermaphroditic 10 contact power plug
U-344/VRC	MT-1029 MT-1898	SC-D-621105	Power receptacle. 3 #12, 15 #16 socket contacts.
U-345/VRC	VRC-12 OA-3633	SM-D-414116	Power receptacle. 18 Pin Contacts. 17 contacts integrally filtered (1500 pf). Mates with U-344/VRC
U-288/U	AS1729	MIL-C-55243(EL)	Medium power plugs and receptacles. 12 #20 contacts. GC290R and U-393/U are right angle versions of U-290/U and U-289/U respectively.
U-291/U	VRC-12		
U-290/U	CX4742		
*GC290R			
U-289/U	CX4722		
U-393/U	CX4722		
U-316	OA-3633	MIL-C-55243(EL) MIL-C-26482	Medium power plugs and receptacles 14 #20 contacts.
U-317/U	PRC-25		
U-318/U	PRC-77		

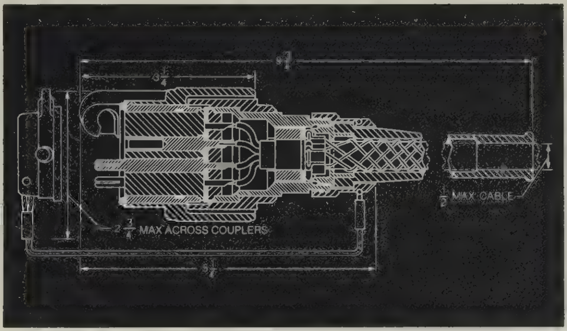
*U-Type nomenclature not yet assigned.

U-TYPE MULTIPURPOSE

U-226B/G

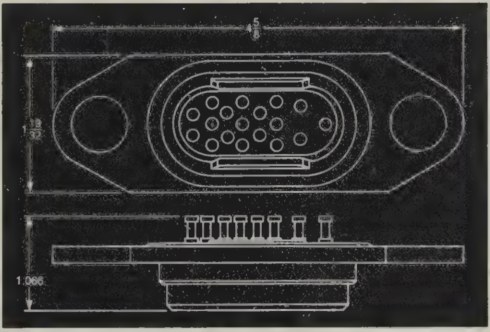
Plug
5 Pin
Contacts
5 Socket
Contacts
(Hermaphroditic)





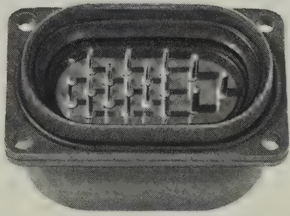
U-344/VRC

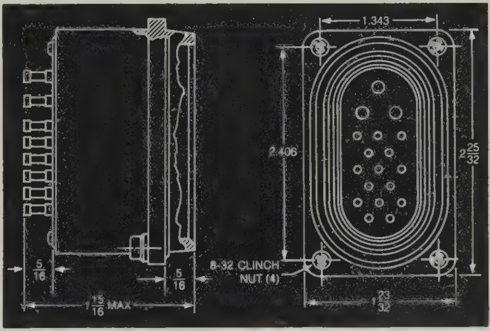
Receptacle
18 Socket
Contacts
Mates with:
U-344/VRC



U-345/VRC

Receptacle
18 Pin Contacts
17 Integrally
Filtered (1500 pf)
Mates with: U-344/VRC



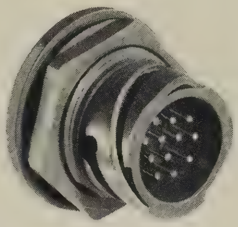


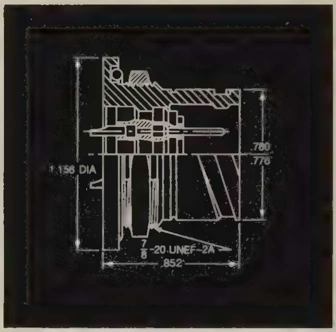
U-TYPE MULTIPURPOSE

The following are 12-contact medium power, quick disconnect connectors meeting all requirements of MIL-C-55243(EL). They intermate as indicated.

U-288/U

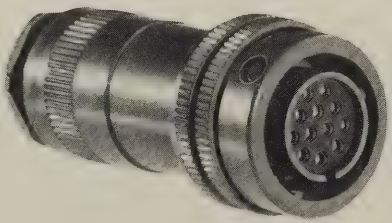
Receptacle
Pin Contacts

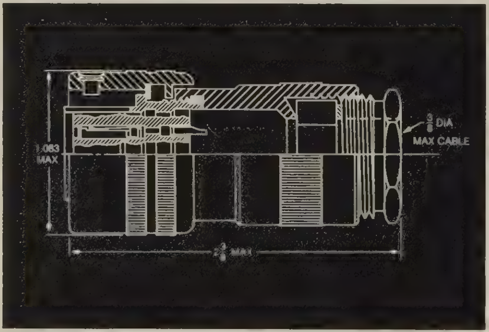




U-290/U

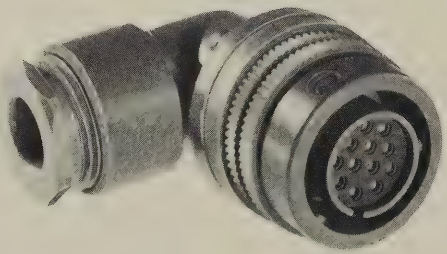
Plug
Socket Contacts



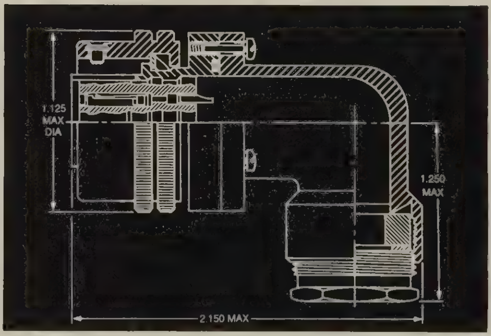


*GC290R

Rt. Angle Plug
Socket Contacts



U.S. PAT. 3711815



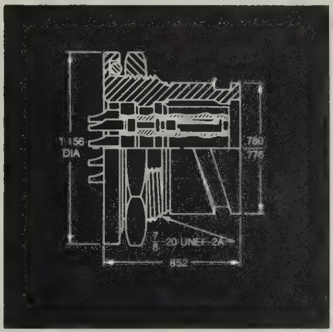
*U-type nomenclature not yet assigned.

U-TYPE MULTIPURPOSE

The following are 12-contact medium power, quick disconnect connectors meeting all requirements of MIL-C-55243(EL). They intermate as indicated.

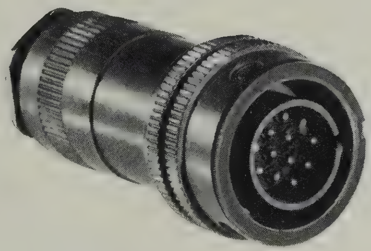
U-291/U

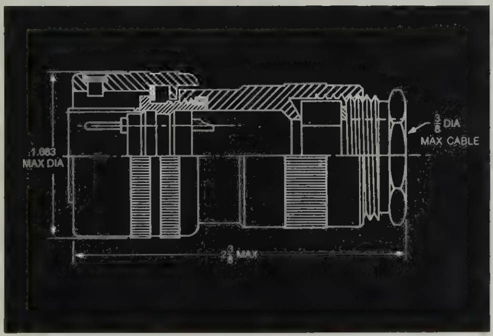
Receptacle
Socket Contacts



U-289/U

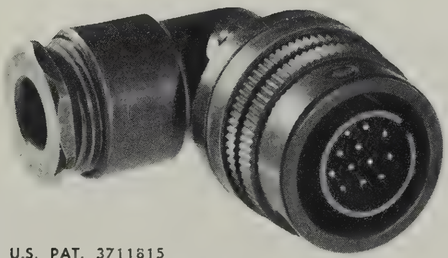
Plug
Pin Contacts



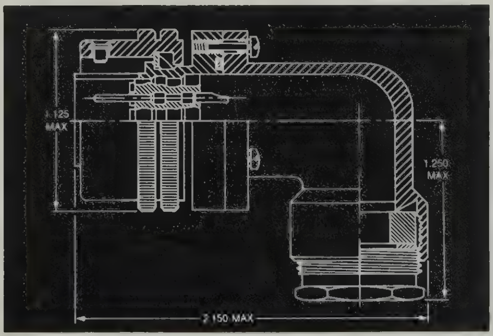


U-393/U

Rt. Angle Plug
Pin Contacts



U.S. PAT. 3711815

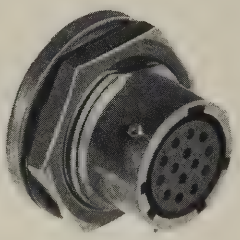


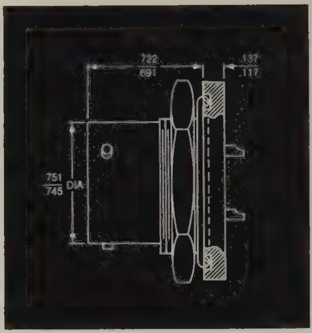
U-TYPE MULTIPURPOSE

The following are 14-contact medium power, quick disconnect connectors conforming to applicable requirements of MIL-C-55243(EL) and MIL-C-26482. They intermate as indicated.

U-318/U

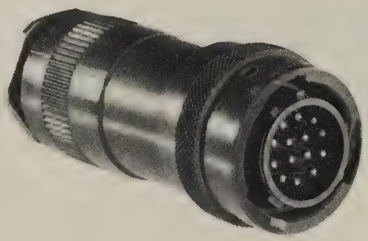
Receptacle
Socket Contacts





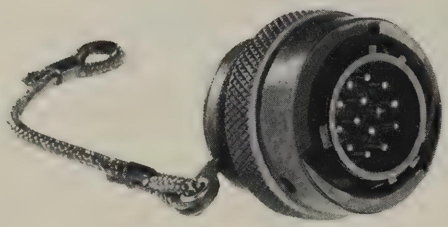
U-316/U

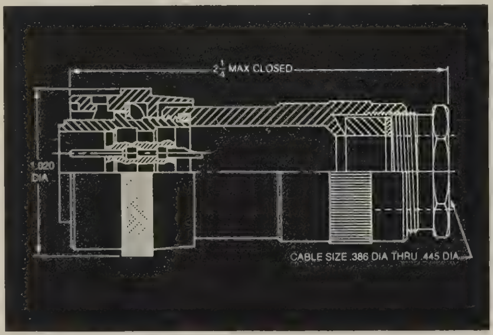
Plug
Pin Contacts

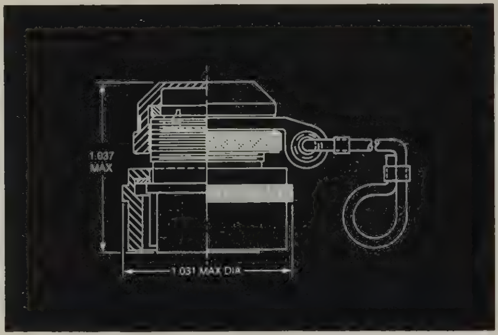


U-317/U

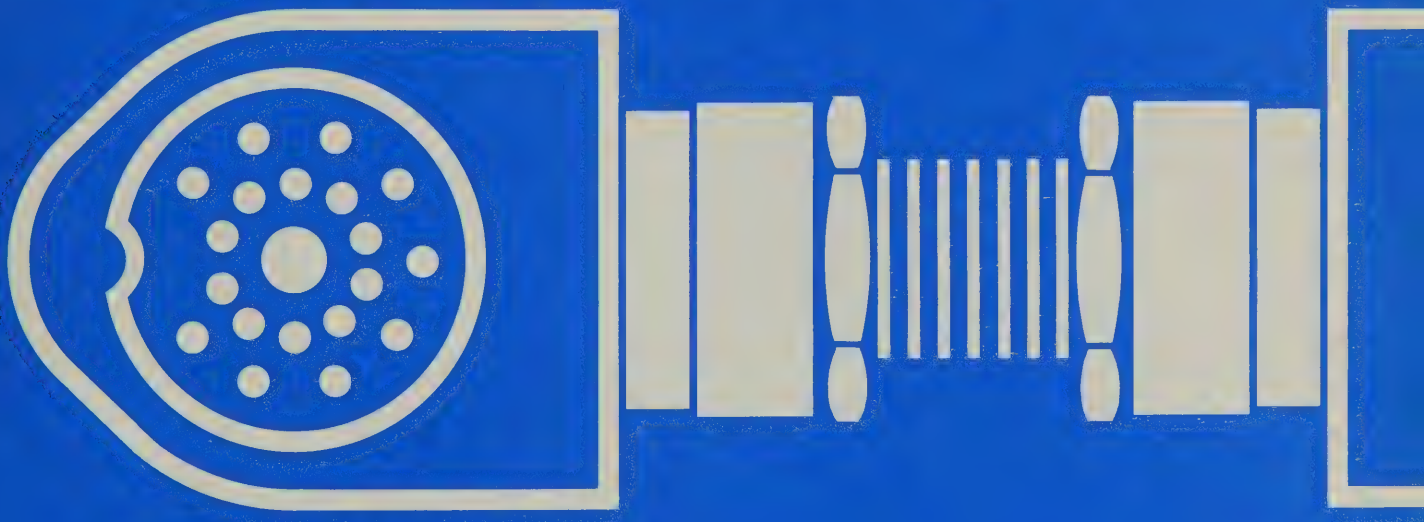
Plug
Pin Contacts
(Special Purpose Shorting Plug)







Miscellaneous Components



MISCELLANEOUS

General Information

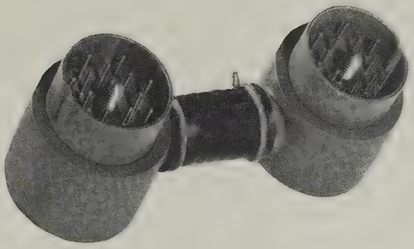
This section contains cable assemblies, connectors, shorting plugs, and dust caps which have been used over the years in various military communications equipments. Specific applications are listed. Your inquiries, however, are requested for modifications or variations, as needed.

Part No.	Description	Typical Equip. Application	Military Dwg. No.
GC416	Audio speaker extension cable. Two wire type WD-27A/U cable	Helmet Radio	
CX-1211/U	Consists of two modified UW1226MC connectors with like lettered contacts wired together attached by a rubber bellows.	GRC-3 thru-8	SC-D-23607
CX-2324A/U	Consists of two modified UW1220MB connectors with like lettered contacts wired together attached by a rubber bellows.	GRC-10	SM-D-193156
CX-10099/U	Consists of two modified UW1326MD connectors with like lettered contacts wired together attached by a metal bellows.	GRC-106	SM-C-502991
GC075	3-contact battery connector with center post	PRC-25 PRC-77	SM-C-447075
GC102	Antenna connector. Phosphor bronze insert, with spring loaded contact, molded in modified polycholorotrifluoroethylene plastic.	PRC-25 PRC-77	SM-C-447102
GC382	Shorting type plug, 10-contact, 3 contact pairs wired together. Mates with MIL-C-26482 #12 shell size receptacle, GC07A12-10S.	VRC-12	SM-D-414382
U-317/U	Shorting type plug, 14-contact, 3 contact pairs wired together. Mates with U-318/U.	PRC-25 PRC-77	SM-C-447929
GC855	Dust cap for GC07A12-10S	VRC-12 OA-3633	SM-B-454855
GC887	Dust cap for U-318/U	PRC-25 PRC-77 VRC-12 OA-3633	SM-B-454887
GC800	Dust Cap for 5- and 6- Contact Audio Receptacles	—	—

MISCELLANEOUS

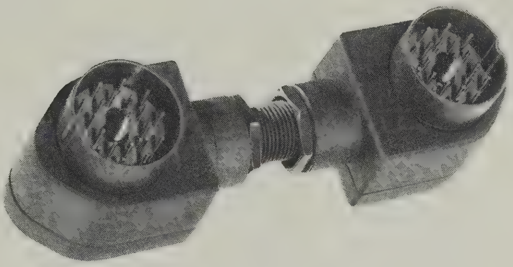
Cable Assemblies

GC416



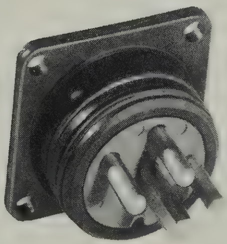
CX-1211/U

CX-2324A/U



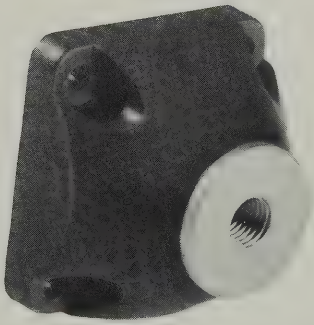
CX-10099/U

Battery Connector



GC075

Antenna Connector

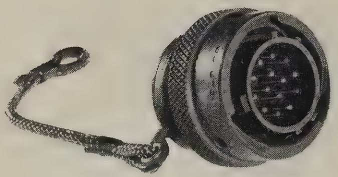


GC102

MISCELLANEOUS

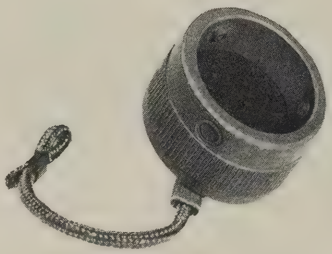
Shorting Plugs

GC382



U-317/U

Dust Caps



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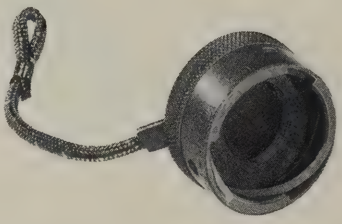
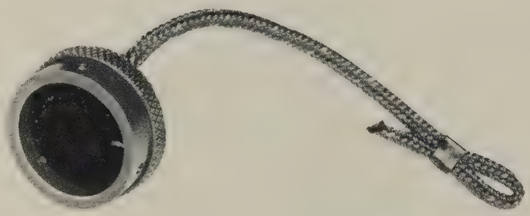
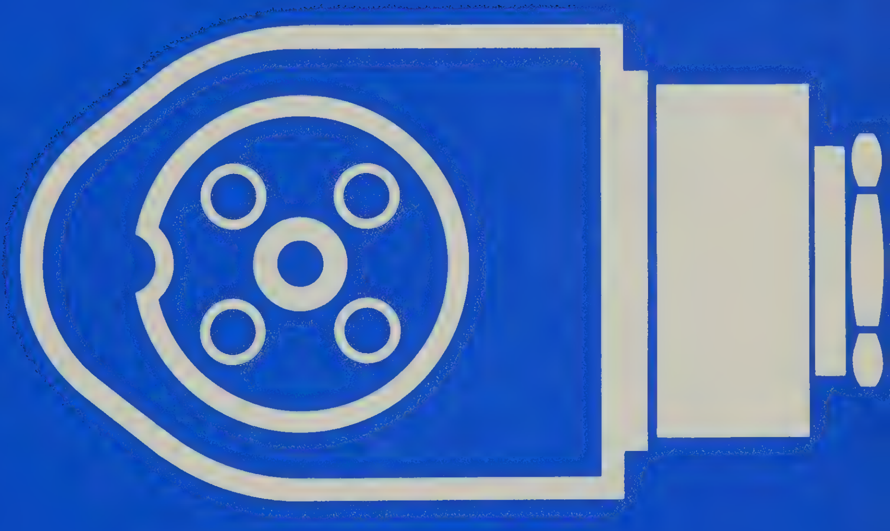


GC887



GC800

Power



General Information

UW

The UW connectors meet all requirements of MIL-C-12520, latest revision. These connectors are rugged, with proven reliability, designed for power and control interconnections. Featured is a center locking double lead screw for maximum reliability, with a fold-down wing-blade handle. They are waterproof and can withstand the extreme range of environmental conditions encountered by ground support equipment.

MW

The MW connectors meet all requirements of MIL-C-55181, latest revision. These connectors are similar in construction to the UW series, but provide greater contact density in the 18 pin configuration. These are used exclusively in the U.S. Army's VRC-12 communication system.

UW MW

Material & Finish

Shells	
Plugs	Aluminum alloy, .0003 cadmium plate with olive drab chromate
Receptacles	Brass, .0003 cadmium plate with olive drab chromate
Nosepieces	Alloy steel, .0003 cadmium plate with olive drab chromate
Drawscrews	Stainless steel
Contacts	
Socket	High conductivity copper alloy with berylium copper spring element, .000030 gold over .0001 copper
Pin	Yellow brass, .000030 gold over .0001 copper
Insulators	Neoprene and/or glass-filled diallyl phthalate, type GDI-30 per MIL-M-19833.

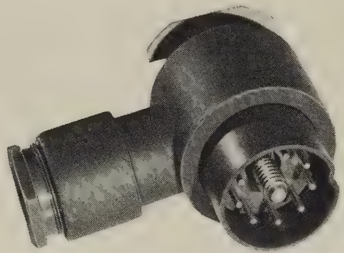
UW Specifications

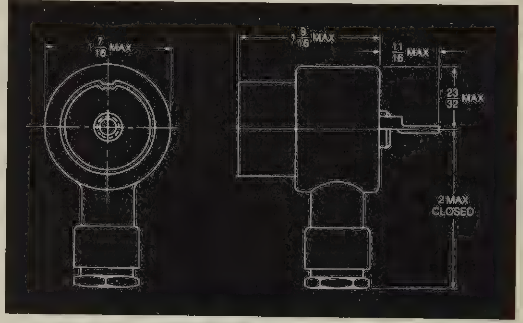
ELECTRICAL	
Dielectric Strength	
4, 9, & 14 contacts	2800 V RMS
19 contacts	2000 V RMS
Insulation Resistance	1000 Megohms min. at 500 V DC
Voltage Drop	
4 contact	20 MV at 35 A
9, 14 & 19 contacts	21 MV at 20 A
MECHANICAL	
Air pressure	2.5 psi
Water Immersion	6 Ft., 48 hours
Durability	500 cycles with a coupling torque of 25 in.—lbs.
Contact Retention	15 lbs.
Insert strength	400 lbs.

MW Specifications

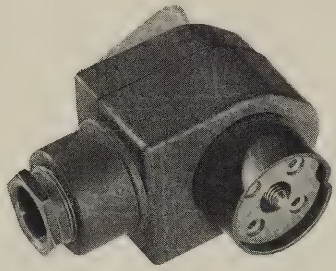
ELECTRICAL	
Dielectric Strength	
4 contact	2000 V RMS
9, 18 contacts	1500 V RMS
Insulation Resistance	1000 Megohms min. at 500 V DC
Voltage Drop	
4 contact	20 MV at 35A
9, 18 contacts	25 MV at 7.5 A
MECHANICAL	
Air pressure	2.5 psi
Water Immersion	6 Ft., 48 hours
Durability	500 cycles with a coupling torque of 12 in.—lbs.
Contact Retention	10 lbs.
Insert strength	400 lbs.

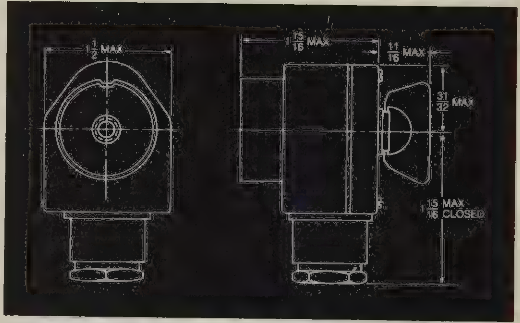
Plugs





UW1220MB21





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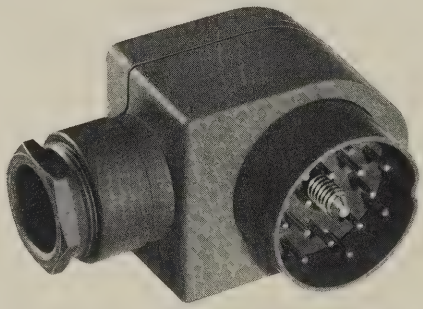
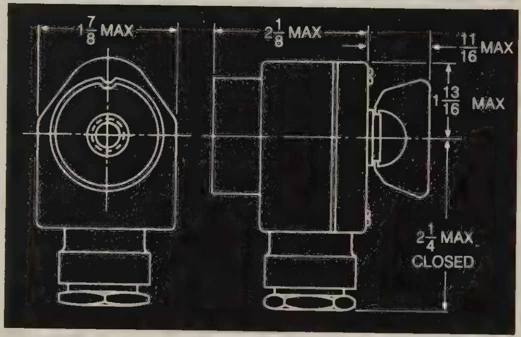
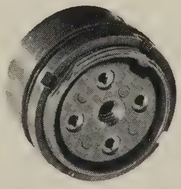
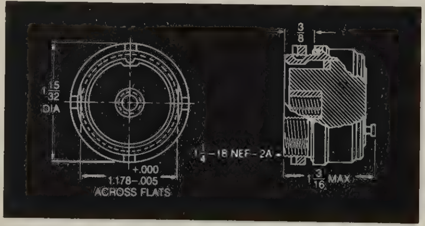




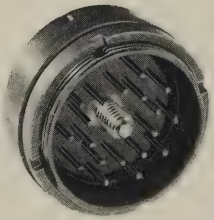
UW1326MC23

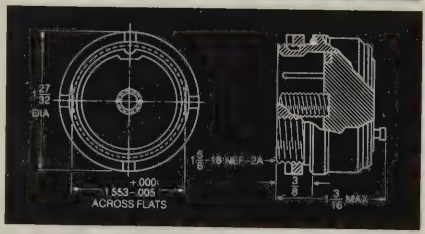
Receptacles





UW2020FA00





UW2026MD00

Part Numbers

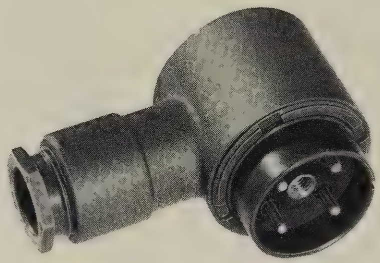
Contact Size	No. of Contacts	Part Numbers per MIL-C-12520	
		Plugs	Mating Receptacles
12 (.094 dia)	4	UW1220MAXX UW1320MAXX	UW2020FA00
		UW1220FAXX UW1320FAXX	UW2020MA00
16 (.0625 dia)	9	UW1220MBXX UW1320MBXX	UW2020FB00
		UW1220FBXX UW1320FBXX	UW2020MB00
	14	UW1326MCXX	UW2026FC00
		UW1326FCXX	UW2026MC00
	19	UW1326MDXX	UW2026FD00
		UW1326FDXX	UW2026MD00

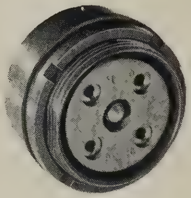
"M" Denotes pin contacts, "F" socket contacts

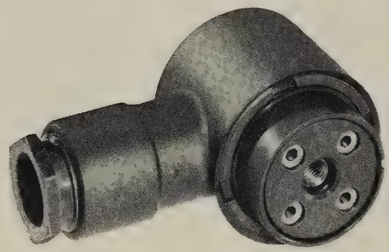
*For complete part number, replace "XX" with cable clamp code as follows:

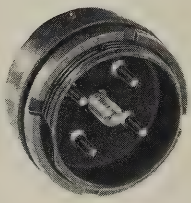
Cable Dia. (inches)	Cable Clamp Code	Applicable Connectors by No. of Contacts
.292 to .343	11	4, 9
.323 to .406	13	4, 9
.386 to .468	15	4, 9
.448 to .531	17	4, 9
.511 to .593	19	4, 9, 14, 19
.573 to .656	21	4, 9, 14, 19
.636 to .718	23	14, 19
.698 to .781	25	14, 19
.761 to .843	27	14, 19

4 contact

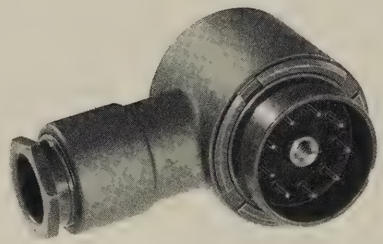

MW10M(M)AXX*

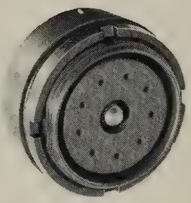

MW20F(M)A00


MW10F(M)AXX *

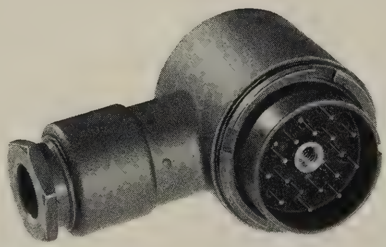

MW20M(M)A00

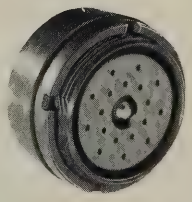
9 contact


MW10M(M)BXX *


MW20F(M)B00

18 contact


MW10M(M)DXX *

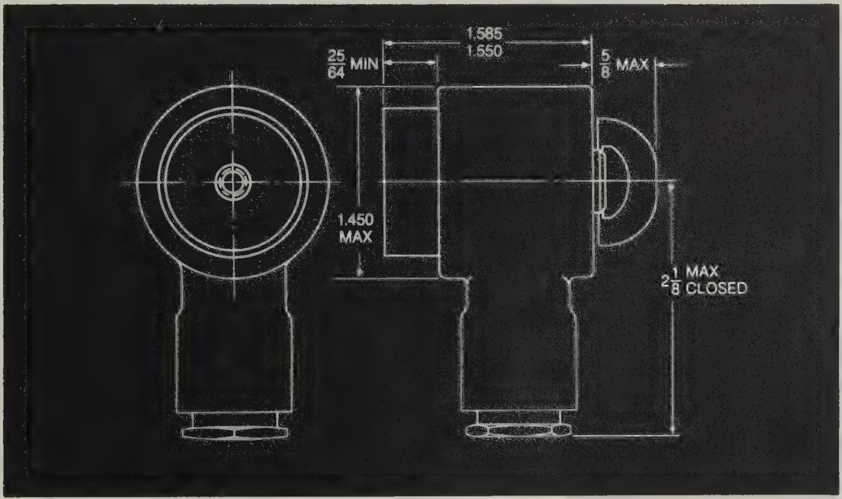

MW20F(M)D00

* For complete part no., replace "XX"
with cable clamp code shown on next page.

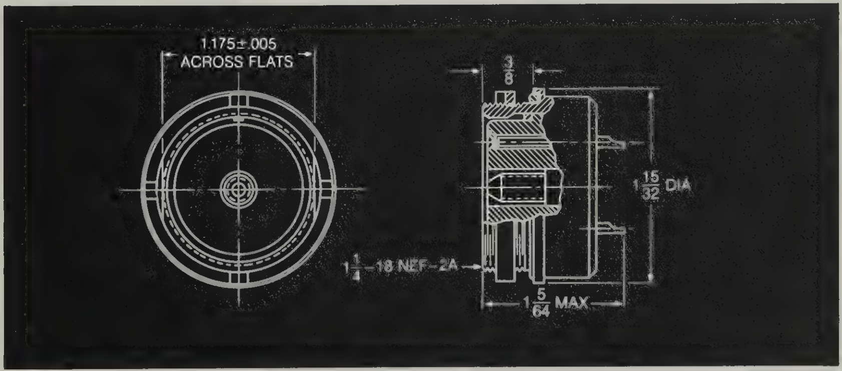
Substitute cable clamp code for "XX" as required

Cable Dia. (Inches)	Cable Clamp Code
.292 to .343	11
.323 to .406	13
.386 to .468	15
.448 to .531	17
.511 to .593	19

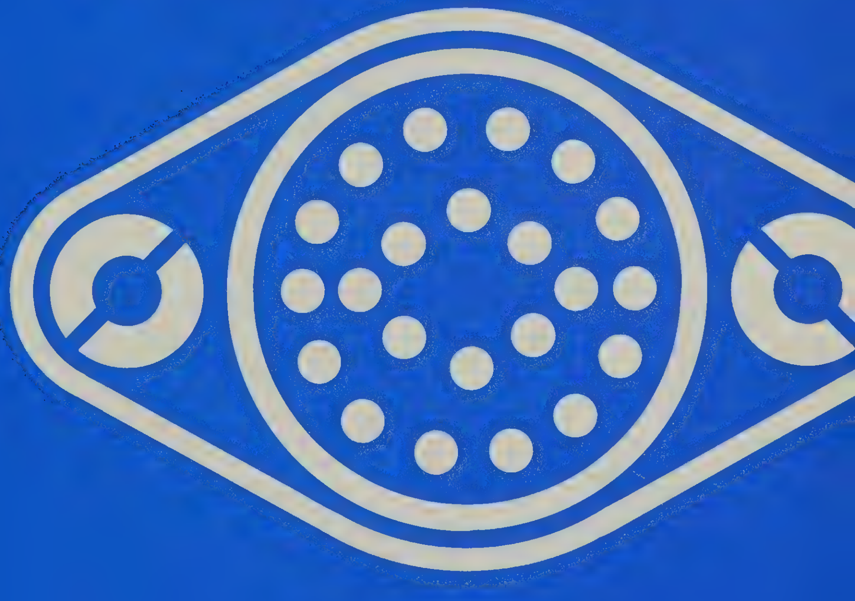
MW 10 Plug



MW 20 Receptacle



Relay Sockets



RELAY SOCKETS

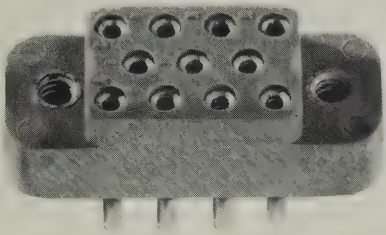
General Information

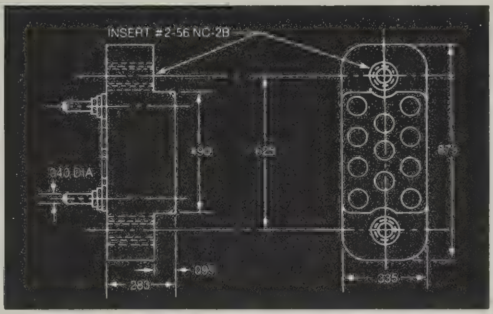
The relay sockets in this section are currently in use in a variety of military communications equipments. Insulation on all sockets is glass-filled diallyl phthalate per MIL-M-19833, Type GDI-30. Contacts are closed entry, high conductivity copper alloy, gold plate per MIL-G-45204, Type II, Class 1. Mounting hardware, where provided, is steel with .0003 cadmium plate with a clear chromate finish.

Part No.	Mil. Spec. and/or Dwg. No.	Description
RE11S	MIL-C-8384	11 contacts, wrap terminals
RE14S	MIL-C-8384	14 contacts, wrap terminals
RE11P	MIL-C-8384	11 contact header, solder terminals, mates with RE11S
RE14P	MIL-C-8384	14 contact header, solder terminals, mates with RE14S
902514	SM-C-374819	8 contacts, printed circuit terminals
414117	SM-D-414117	8 contacts, eyelet terminals
415282	SM-C-415282	20 contacts, eyelet terminals
415283	SM-D-415283	14 contacts, eyelet terminals

RELAY SOCKETS

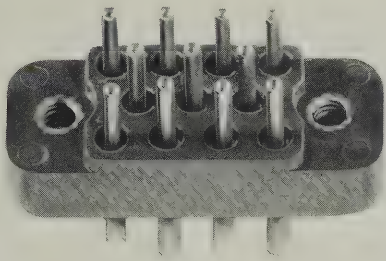
RE11S

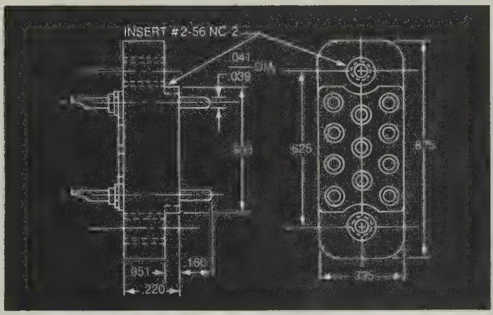




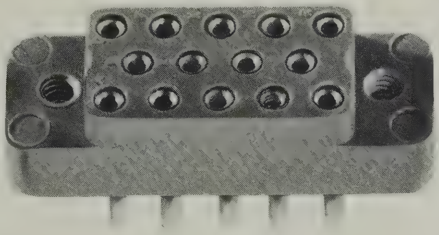
RE11P (Header)

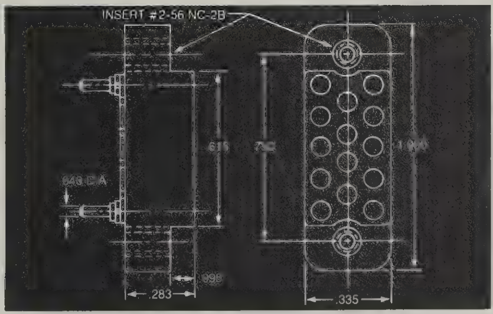
Mates with
RE11S





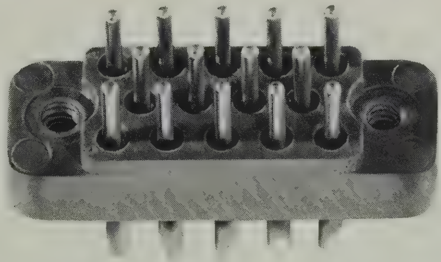
RE14S

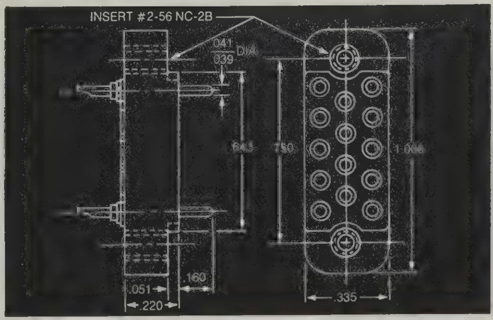




RE14P (Header)

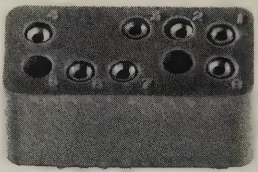
Mates with
RE14S

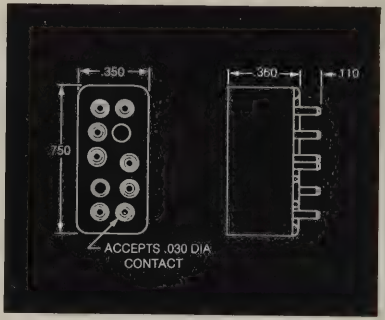




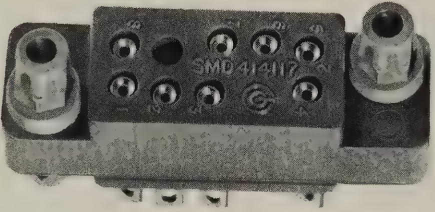
RELAY SOCKETS

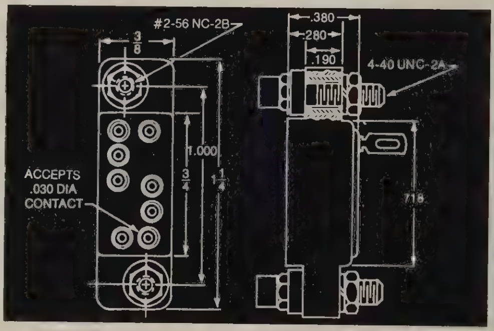
902514





414117





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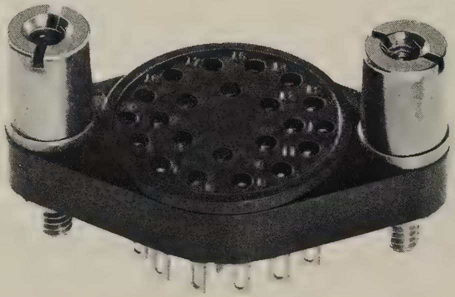
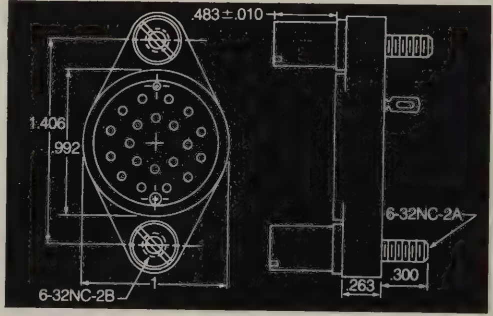
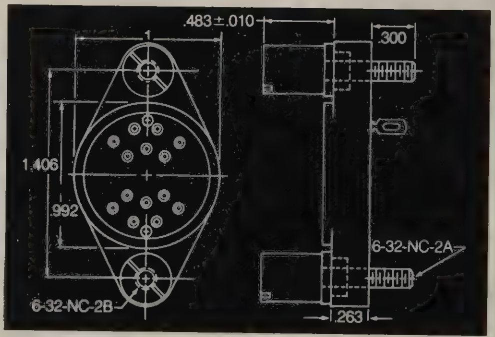
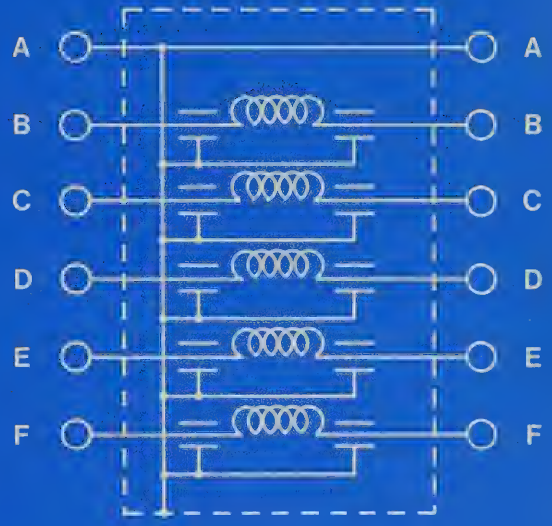


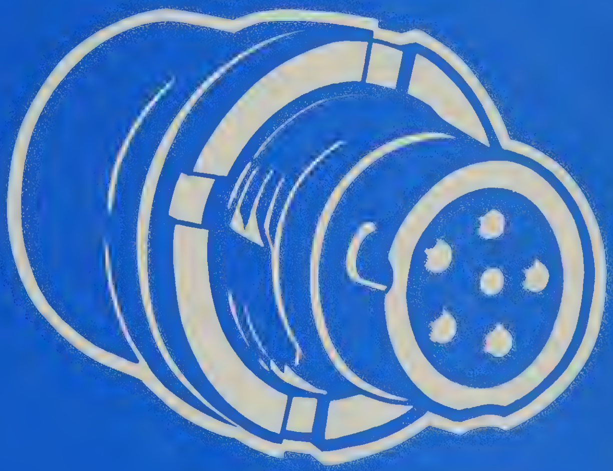


415283





Filtered Contact Connectors



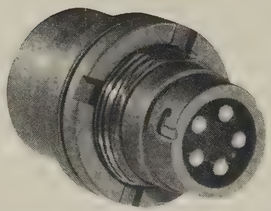
FILTERED CONNECTORS

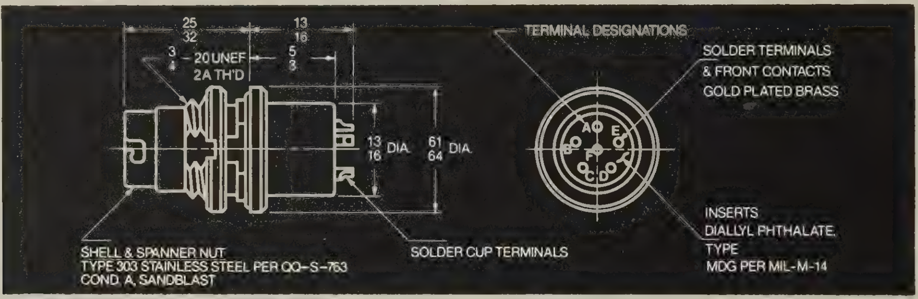
General Information

Integrally filtered connectors for controlling electromagnetic interference (E.M.I.) are available in various connectors such as the 5 and 6-contact audio receptacles, U-183/U and GC283, and various configurations of multi-contact cylindrical connectors per MIL-C-26482, MIL-C-27599, MIL-C-55116, plus GJ Series rack and panel. The filters used are low-pass pi-network ferrite-ceramic capacitors. Each filter surrounds the pin to be filtered and is connected to a ground-plane built into the connector.

GC183F (5-Contact)
GC283F (6-Contact)

Spring Loaded Contacts
*Solder Terminals
Mates with U-229/U (5-cont.),
or GC329 (6-Cont.)





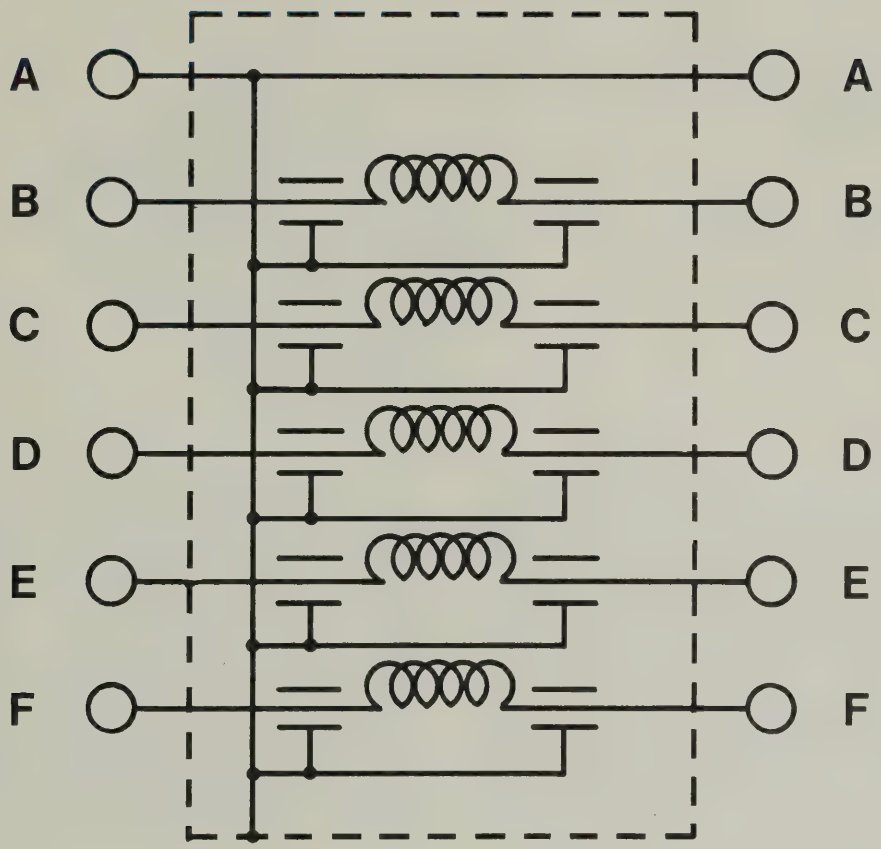
25/32
13/16
3/4 – 20UNEF 2A TH'D
5/8
13/16 DIA.
61/64 DIA.
TERMINAL DESIGNATIONS
SOLDER TERMINALS & FRONT CONTACTS GOLD PLATED BRASS
A
B
C
D
E
F
INSERTS DIALLYL PHTHALATE. TYPE MDG PER MIL-M-14
SHELL & SPANNER NUT TYPE 303 STAINLESS STEEL PER QQ-S-763 COND. A, SANDBLAST
SOLDER CUP TERMINALS

5 PIN	GC183F-1-050	GC183F-1-300	GC183F-1-220
6 PIN	GC283F-1-050	GC283F-1-300	GC283F-1-220
ATTRIBUTE	**REQUIREMENT**	**REQUIREMENT**	**REQUIREMENT**
CAPACITANCE 25 °C, 0.1 VRMS 1 KHZ ± .1	8,000 Pf TYP.	32,000 Pf TYP.	29,000 Pf TYP.
WORKING VOLTS	100 VOLTS D.C.		
DIELECTRIC WITHSTANDING VOLTS	500 VOLTS D.C.	300 VOLTS D.C.	500 VOLTS D.C.
INSULATION RES. MIN. (25 °C 200 V.D.C., CHARGING CURRENT <50 MA.)	20,000 MEGOHMS MIN.		10,000 MEGOHMS MIN.
TYPICAL INSERTION LOSS PER MIL-STD-220 (25 °C, NO LOAD)	50 DB MIN. 100 MHZ TO 10 GHZ	15 DB MIN. AT 1 MHZ	55 DB MIN. 100 MHZ TO 10 GHZ
R.F. CURRENT (MAX.)	0.25 AMPERES		
OPERATING TEMPERATURE RANGE	– 55 °C TO + 125 °C	– 55 °C TO + 105 °C	– 55 °C TO + 105 °C

*PRINTED CIRCUIT TERMINALS AVAILABLE UPON REQUEST

FILTERED CONNECTORS

Wiring Diagram



Nomenclature

GC183F-X-XXX

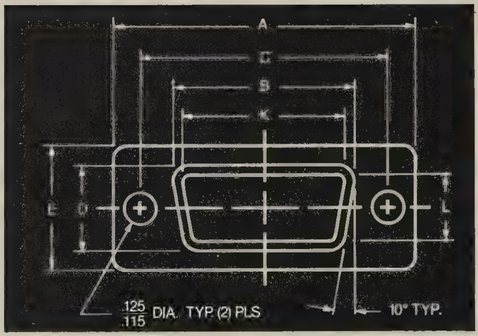
Capacitance Code (See Chart)

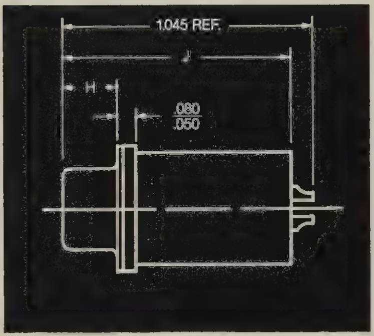
Wiring Code

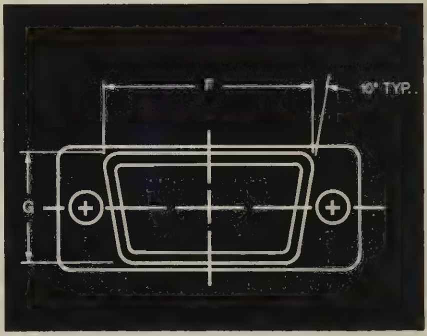
-1 "A" Pin Grounded, Unfiltered
-3 All Pins Filtered
-4 "C" & "E" Pins Grounded, Unfiltered

GJ Series Typical

B Size, 25 Contacts,
*Solder Terminals.







Materials and Finishes

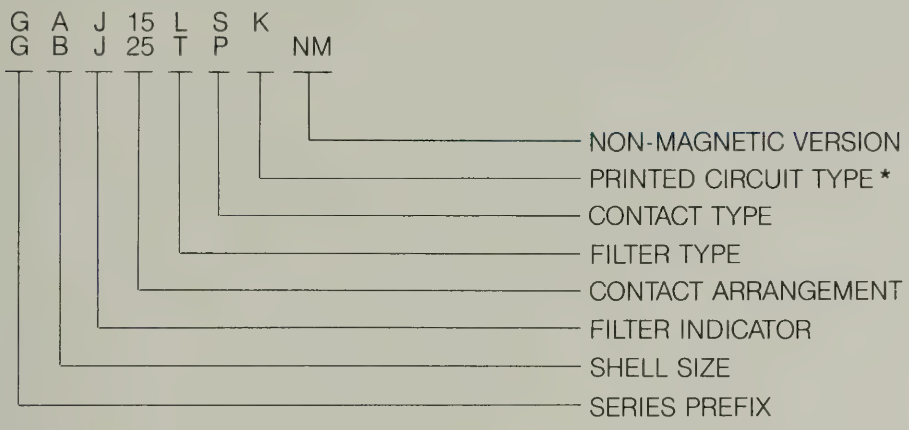
DESCRIPTION	MATERIAL	FINISH
Contacts	Copper alloy	Gold plate
Shell, Front	Steel (standard) Brass (NM versions)	Tin plate Tin plate
Shell, Rear	Die cast aluminum	Tin plate
Insulators	Diallyl phthalate	none
Ground Plane	Photo-etched, copper alloy	

Part Number By Shell Size	A ± .015	B ± .005	C ± .005	D ± .005	E ± .015	F ± .010	G ± .010	H ± .010	J ± .010	K ± .005	L ± .005
GEJ-9P	1.213		.984		.494	.816	.456	.234	.950	.666	.329
GEJ-9S	1.213	.643	.984	.311	.494	.816	.456	.243	.958		
GAJ-15P	1.541		1.312		.494	1.144	.456	.234	.950	.994	.329
GAJ-15S	1.541	.971	1.312	.311	.494	1.144	.456	.243	.958		
GBJ-25P	2.087		1.852		.494	1.683	.456	.230	.954	1.534	.329
GBJ-25S	2.087	1.511	1.852	.311	.494	1.683	.456	.243	.958		
GCJ-37P	2.729		2.500		.494	2.332	.456	.230	.954	2.182	.329
GCJ-37S	2.729	2.159	2.500	.311	.494	2.332	.456	.243	.958		
GDJ-50P	2.635		2.406		.605	2.237	.573	.230	.954	2.079	.436
GDJ-50S	2.635	2.064	2.406	.423	.605	2.237	.573	.243	.958		

*Printed circuit terminals available upon request

FILTERED CONNECTORS

Nomenclature Key



Series Prefix
G: MINIATURE, RECTANGULAR, SOLDER TERMINATION

Shell Size
E,A,B,C,D

Filter Indicator
J: FILTERED CONNECTOR

Filter Type
L: LOW FREQUENCY
M: MID-RANGE FREQUENCY
T: STANDARD FREQUENCY
H: HIGH FREQUENCY

Contact Type
P: PIN CONTACTS
S: SOCKET CONTACTS

NON-MAGNETIC VERSIONS—CONSULT FACTORY

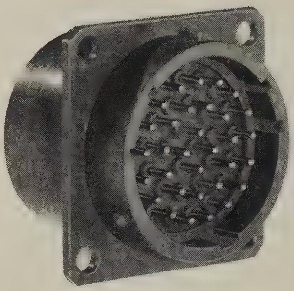
Electrical Characteristics

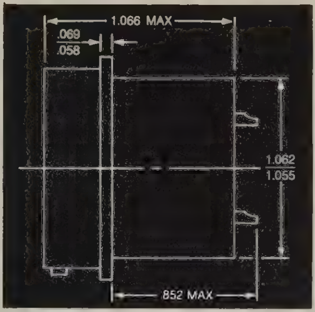
AVAILABLE FILTER		LOW FREQ.	MID. FREQ.	STD. FREQ.	HIGH FREQ.
FILTER TYPE		L	M	T	H
VOLTAGE RATING (WORKING)		100 VDC	200 VDC		
CURRENT RATING (AMP. DC)		5.0			
INSULATION RESISTANCE, 2 MIN. ELECTRIFICATION TIME MAX. AT 25°C, & 100 VDC		1000 MEGOHMS MINIMUM	10,000 MEGOHMS MINIMUM		
DWV, SEA LEVEL, W/500 MICRO-AMPS MAX., CHARGE/DISCHARGE		300 VDC	500 VDC		
CAPACITANCE AT 1 KHz, 0.1 Vrms PICOFARADS		50,000 MINIMUM	4,000 12,000	2,300 5,000	500 1,300
	FREQ. MHz	ATTENUATION (db)			
ATTENUATION PER MIL-STD-200 AT 25° WITH NO APPLIED VOLTAGE OR CURRENT	0.1	2-6			
	1	15 MIN.	2-6		
	2	20 MIN.	5 MIN.	2-6	
	10	35 MIN.	15 MIN.	9 MIN.	2-6
	100	50 MIN.	50 MIN.	50 MIN.	30 MIN.
	500 TO 10,000	50 MIN.	55 MIN.	55 MIN.	50 MIN.

*Printed circuit terminals available upon request

Multi-Contact Cylindrical, Conforming to MIL-C-26482 & MIL-C-27599

Typical Receptacle
#18 Shell Size, 32 Contacts,
* Solder Terminals





*Printed circuit terminals available upon request

Typical Filter Characteristics*

Attribute	Requirement
Capacitance (25° C, 0.1 VRMS 1KHZ ± .1)	5000 PF Min. 8000 PF Typ.
Working Voltage	200 VDC
Dielectric withstanding Voltage	500 VDC
Insulation Res. Min. (25°C, 200 VDC, charging current < 50 ma.)	5K Megohms
Insertion loss per MIL-STD-220 (25°C, no load) 50 ohm to 600 ohm imp.	0 db max. – 3 KHZ 0.5 db max. – 10 KHZ 9 db min. – 1 MHZ 25 db min. – 10 MHZ 50 db min. – 100 MHZ to 10 GHZ
RF Current (Max.)	0.25 Amps
Operating Temperature Range	–55° C. to +125° C.
Thermal Shock	Method 102A Cond. D. Per MIL-STD-202 (–55° C. to +150° C.)

*Other filters available upon request.

MIL-C-26482

MIL-C-26482

General Information

MIL-C-26482 connectors are miniature, quick-disconnect and environment-resisting, designed for operation between –55° and 125°C. Both solder and removeable crimp contacts are provided. Designed to accommodate both power and signal circuitry, these connectors are available in a great variety of sizes and contact configurations. Solder type contact connectors are pressure-tight and immersion-proof. Crimp contact connectors provide a pressure-tight seal when mated.

Crimp Contact Tooling

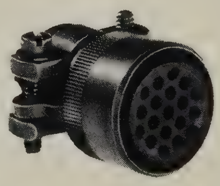
Insertion and removal of crimp contacts may be accomplished by using applicable tools per MS24256. The contacts are designed to conform to MS3192 (for pin type) and MS3193 (for socket type). Tooling in accordance with MS3191 should be used for crimping.

Wire Terminations

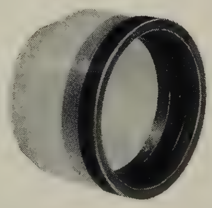
TYPE E (Military Standard)
Grommet seal, for
sealing individual leads

TYPE F (Military Standard)
Same as above with clamp

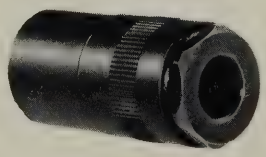
TYPE A (SR)
Same as Type F except
no grommet seal



TYPE P (Military Standard)
Potting form



TYPE J
For sealing on jacketed cable



MIL-C-26482

Material & Finish

Shells	Aluminum alloy, .0003 cadmium plate with olive drab chromate
Insulators	Neoprene (solder) and neoprene and glass-filled diallyl phthalate (crimp).
Contact Retention Clips	Heat treated beryllium copper (crimp)
Contacts	High conductivity copper alloy, .000050 gold over copper.

Specifications

ELECTRICAL

Max. Working Voltages	
(Sea Level)	Service Rating I - 600 VRMS
"	Service Rating II - 1000 VRMS
(70,000 Ft.)	Service Rating I - 300 VRMS
"	Service Rating II - 450 VRMS
Insulation Resistance at 77°F	5000 megohms, min.
Voltage Drop	#20 contact, #20 wire, at 7.5 A, 55 mv. max. #16 contact, #16 wire, at 13.0 A, 50 mv. max.

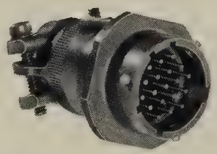
MECHANICAL

Air Pressure (Solder type)	30 psi at –55°C
Water Immersion (Solder type)	6 ft., 48 hours
Durability	500 cycles of coupling and uncoupling
Contact Retention	#20 contact, 15 lbs., #16, 25 lbs.
Insert Retention	75 psi

Shell Types and Wire Terminations

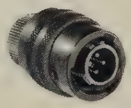
PLUGS

Solder—GC01 (MS3111)
Crimp—GC01C (MS3121)
Terminations—E, A (SR), F & P
J (Solder only)

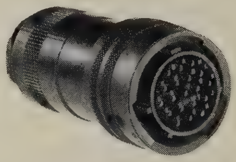


GC01F14-19P (MS3111F14-19P)

Solder—GC06 (MS3116)
Crimp—GC06C (MS3126)
Terminations—E, A (SR), F & P
J (Solder only)



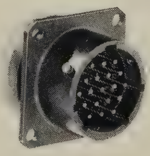
GC06E8-4P (MS3116E8-4P)



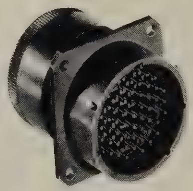
GC06J14-19S

RECEPTACLES

Solder—GC00 (MS3110)
Crimp—GC00C (MS3120)
Terminations—E, A (SR), F & P

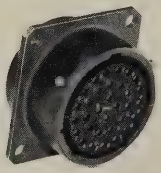


GC00P14-19P (MS3110P14-19P)



GC00CE22-55P (MS3120E22-55P)

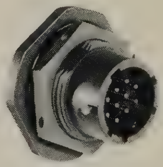
Solder—GC02 (MS3112)
Crimp—GC02C (MS3122)
Terminations—None
(Designated by E in this style)



GC02E18-32S (MS 3112E18-32S)

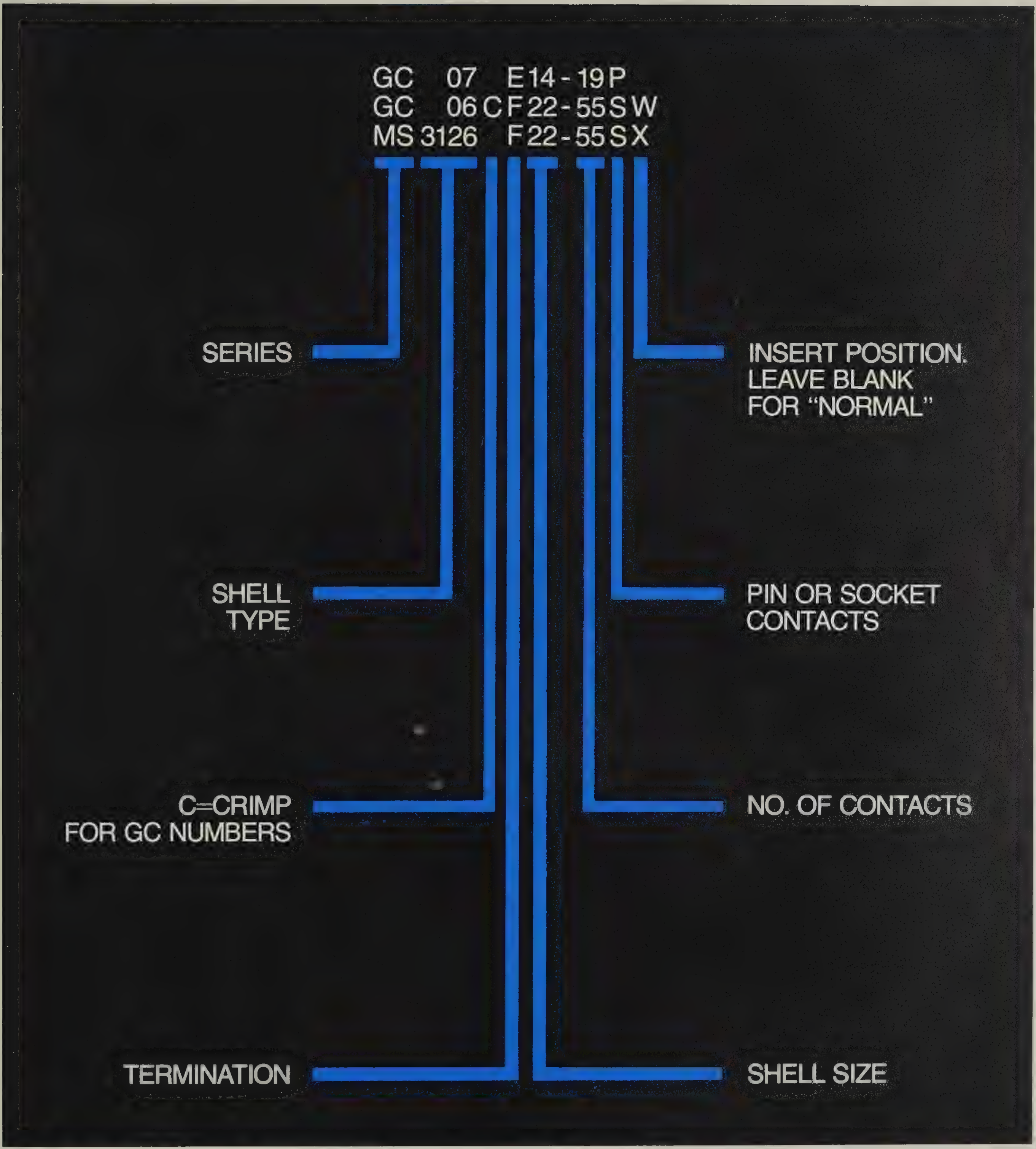
Solder—GC07 (MS3114—E only)
Crimp—GC07C (MS3124—E only)
Termination—E (Solder & crimp)
No Termination—Solder only,
Designated by A

GC07CE18-32S (MS3124E18-32S)



GC07A12-10P

Part Number Designation

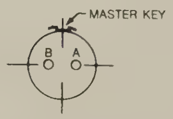


MIL-C-26482

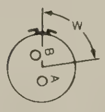
Shell size, number of contacts and insert positions

SHELL SIZE	NUMBER OF CONTACTS			SERVICE RATING	*INSERT POSITIONS			
	TOTAL	#16	#20		W	X	Y	Z
8	3	—	3	I	60°	210°	—	—
8	4	—	4	I	45°	—	—	—
10	6	—	6	I	90°	—	—	—
12	3	3	—	II	—	—	180°	—
12	10	—	10	I	60°	155°	270°	295°
12	14	—	14	**	NON-STANDARD			
14	5	5	—	II	40°	92°	184°	273°
14	12	4	8	I	43°	90°	—	—
14	15	1	14	I	17°	110°	155°	234°
14	19	—	19	I	30°	165°	315°	—
16	8	8	—	II	54°	152°	180°	331°
16	26	—	26	I	60°	—	275°	338°
18	11	11	—	II	62°	119°	241°	340°
18	32	—	32	I	85°	138°	222°	265°
20	39	2	37	I	63°	144°	252°	333°
20	41	—	41	I	45°	126°	225°	—
22	55	—	55	I	30°	142°	226°	314°

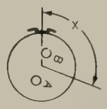
*The angles shown apply to the front of the pin insert or to the rear of the socket insert.



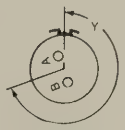
Normal



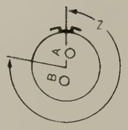
W



X



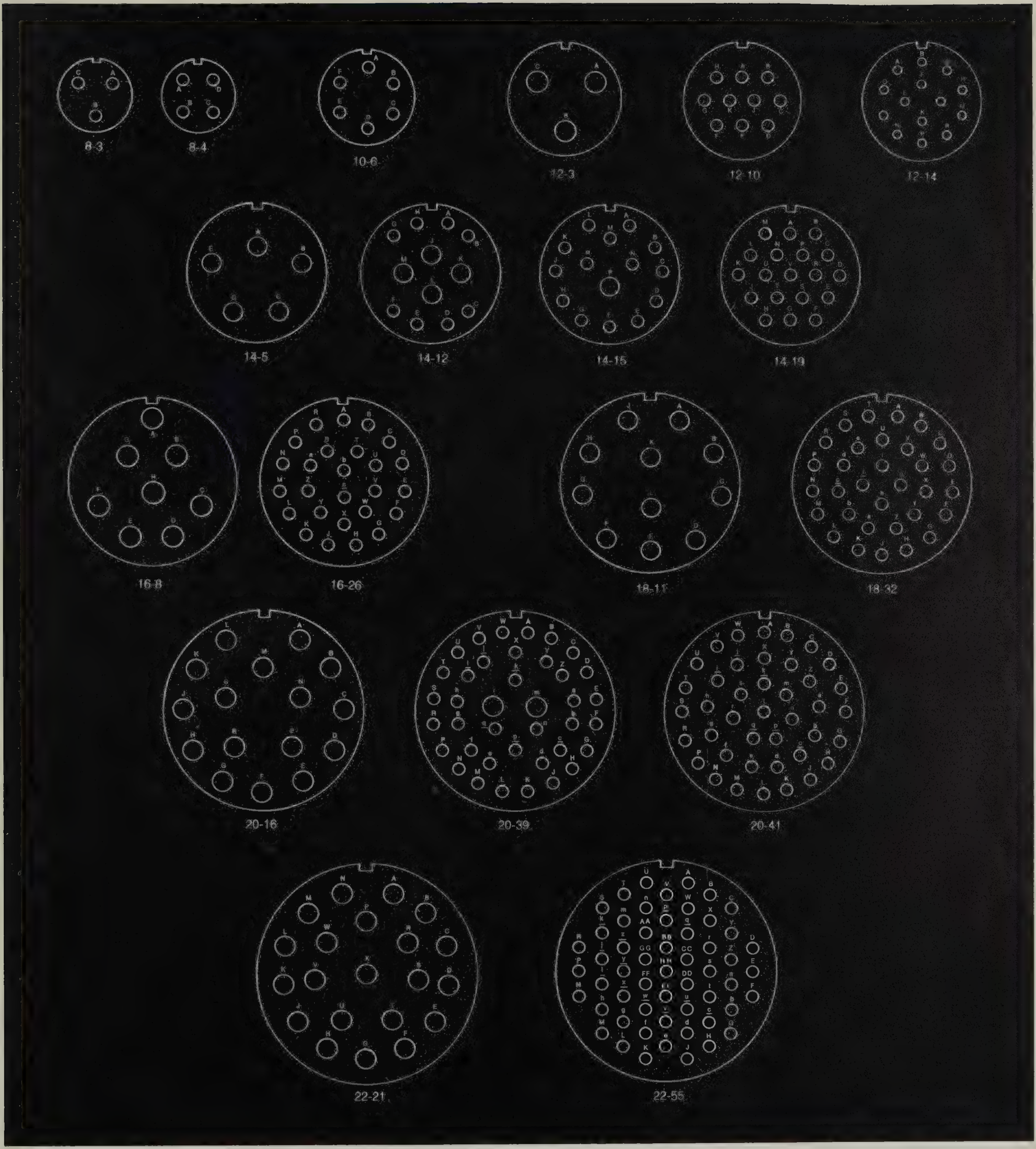
Y



Z

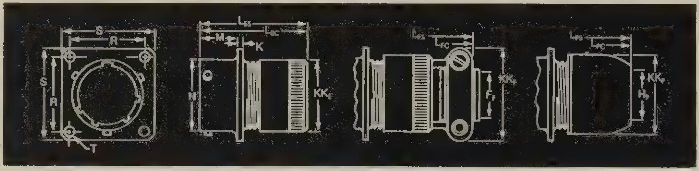
**Max. Working Voltage—300 VRMS

Insert Arrangements



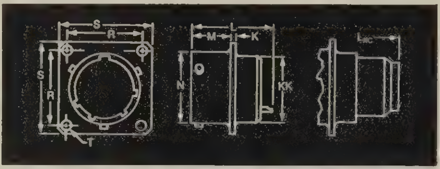
Receptacle Dimensions

GC00 (MS3110 & MS3120)



E A (SR) & F P

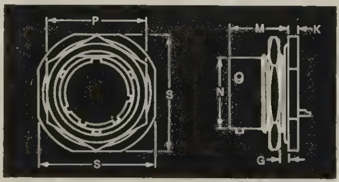
GC02 (MS3112 & MS3122)



E(Solder) E (Crimp)

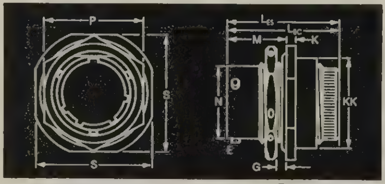
SHELL SIZE	F_F MIN. DIA.	H_P MIN. DIA.	K ±.016	KK +.031 −.016	KK_E MAX.	KK_F MAX.	KK_P MAX.	L MAX.	L_{ES} MAX.	L_{FS} MAX.	L_{PS} MAX.	L_{EC} MAX.	L_{FC} MAX.	L_{PC} MAX.	L_{XC} MAX.	M +.031 −.000	N +.001 .−005	R ±.005	S MAX.	T ±.005
8	.234	.317	.062	.438	.608	.828	.608	.978	1.281	1.922	1.453	—	—	—	—	.431	.473	.594	.828	.120
10	.297	.434	.062	.562	.734	.891	.734	.978	1.281	1.922	1.453	1.552	2.422	1.675	1.266	.431	.590	.719	.954	.120
12	.422	.548	.062	.688	.858	1.016	.858	.978	1.281	1.922	1.453	1.552	2.422	1.675	1.266	.431	.750	.812	1.047	.120
14	.547	.673	.062	.812	.984	1.141	.984	.978	1.281	1.922	1.453	1.552	2.422	1.675	1.266	.431	.875	.906	1.141	.120
16	.609	.798	.062	.938	1.110	1.203	1.110	.978	1.281	2.047	1.453	1.552	2.537	1.675	1.266	.431	1.000	.969	1.234	.120
18	.734	.899	.062	1.062	1.234	1.469	1.234	.978	1.281	2.078	1.453	1.552	2.537	1.675	1.266	.431	1.125	1.062	1.328	.120
20	.734	1.024	.094	1.188	1.360	1.469	1.360	1.196	1.531	2.344	1.672	1.709	2.824	1.963	1.328	.556	1.250	1.156	1.543	.120
22	.922	1.149	.094	1.312	1.484	1.656	1.484	1.196	1.531	2.344	1.672	1.709	2.824	1.963	1.328	.556	1.375	1.250	1.578	.120

GC07



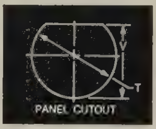
A(Solder)

GC07 (MS3114 & MS3124)



E

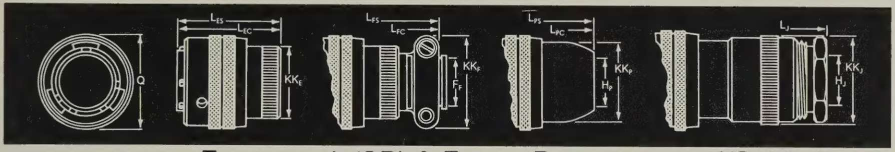
SIZE SHELL	G MIN.	G MAX.	K ±.020	KK MAX.	L_{ES} MAX.	L_{EC} MAX.	M +.031 −.000	N +.001 −.005	P MAX.	S MAX.	T +.010 −.005	V +.010 −.005
8	.062	.125	.117	.750	1.344	1.547	.691	.473	.767	.954	.572	.540
10	.062	.125	.117	.875	1.344	1.547	.691	.590	.892	1.078	.697	.665
12	.062	.125	.117	1.000	1.344	1.547	.691	.750	1.079	1.266	.885	.828
14	.062	.125	.117	1.125	1.344	1.547	.691	.875	1.205	1.391	1.010	.952
16	.062	.125	.117	1.250	1.344	1.547	.691	1.000	1.329	1.516	1.135	1.076
18	.062	.125	.117	1.375	1.344	1.547	.691	1.125	1.455	1.641	1.260	1.201
20	.062	.250	.148	1.531	1.594	1.709	.879	1.250	1.579	1.828	1.385	1.326
22	.062	.250	.148	1.656	1.594	1.709	.879	1.375	1.705	1.954	1.510	1.451



NOTE: Dimensions are common to solder and crimp connectors except where denoted by sub-letter "S" or "C"

Plug Dimensions

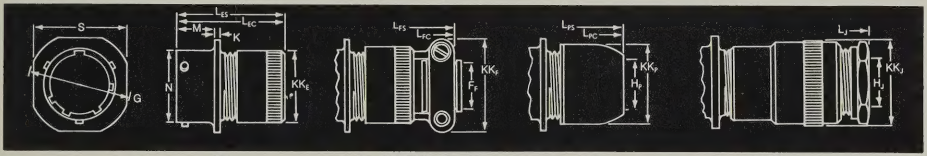
GC06 (MS3116 & MS3126)



E A (SR) & F P J(Solder)

SHELL SIZE	F_F MIN. DIA.	H_P MIN. DIA.	H_J MIN. RANGE		KK_E MAX.	KK_F MAX.	KK_P MAX.	KK_J MAX.	L_{ES} MAX.	L_{FS} MAX.	L_{PS} MAX.	L_{EC} MAX.	L_{FC} MAX.	L_{PC} MAX.	L_J MAX.	Q MAX.
			CLOSED	OPEN												
8	.234	.317	.168	.230	.608	.828	.608	.608	1.281	1.828	1.500	—	—	—	2.400	.750
10	.297	.434	.205	.312	.734	.891	.734	.734	1.281	1.828	1.500	1.513	2.413	1.750	2.400	.859
12	.422	.548	.338	.442	.858	1.016	.858	.858	1.281	1.828	1.500	1.513	2.413	1.750	2.400	1.031
14	.547	.673	.416	.539	.984	1.141	.984	.984	1.281	1.828	1.500	1.513	2.413	1.750	2.400	1.156
16	.609	.798	.550	.616	1.110	1.203	1.110	1.110	1.281	1.969	1.500	1.513	2.528	1.750	2.400	1.281
18	.734	.899	.600	.672	1.234	1.469	1.234	1.234	1.281	1.969	1.500	1.513	2.528	1.750	2.400	1.391
20	.734	1.024	.635	.747	1.360	1.469	1.360	1.360	1.453	2.141	1.609	1.638	2.753	1.892	2.572	1.531
22	.922	1.149	.670	.846	1.484	1.656	1.484	1.489	1.453	2.141	1.609	1.638	2.753	1.892	2.629	1.656

GC01 (MS3111 & MS3121)



E A (SR) & F P J(Solder)

SHELL SIZE	F_F MIN. DIA.	G ±.020	H_P MIN. DIA.	H_J MIN. RANGE		K ±.016	KK_E MAX.	KK_F MAX.	KK_P MAX.	KK_J MAX.	L_{ES} MAX.	L_{FS} MAX.	L_{PS} MAX.	L_{EC} MAX.	L_{FC} MAX.	L_{PC} MAX.	L_J MAX.	M +.031 −.000	N +.001 −.005	S MAX.
				CLOSED	OPEN															
8	.234	.938	.317	.168	.230	.094	.608	.828	.608	.608	1.281	1.922	1.453	—	—	—	1.781	.400	.473	.828
10	.297	1.062	.434	.205	.312	.094	.734	.891	.734	.734	1.281	1.922	1.453	1.552	2.422	1.675	1.781	.400	.590	.954
12	.422	1.156	.548	.338	.442	.094	.858	1.016	.858	.858	1.281	1.922	1.453	1.552	2.422	1.675	1.921	.400	.750	1.047
14	.547	1.250	.673	.416	.539	.094	.984	1.141	.984	.984	1.281	1.922	1.453	1.552	2.422	1.675	2.109	.400	.875	1.141
16	.609	1.344	.798	.550	.616	.094	1.110	1.203	1.110	1.110	1.281	2.047	1.453	1.552	2.537	1.675	2.328	.400	1.000	1.234
18	.734	1.438	.899	.600	.672	.094	1.234	1.469	1.234	1.234	1.281	2.078	1.453	1.552	2.537	1.675	2.562	.400	1.125	1.328
20	.734	1.562	1.024	.635	.747	.115	1.360	1.469	1.360	1.360	1.531	2.344	1.672	1.709	2.824	1.963	3.000	.535	1.250	1.453
22	.922	1.688	1.149	.670	.846	.115	1.484	1.656	1.484	1.489	1.531	2.344	1.672	1.709	2.824	1.963	3.156	.535	1.375	1.578

NOTE: Dimensions are common to solder and crimp connectors except where denoted by sub-letter "S" or "C".

General Connector Corporation

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A Subsidiary of The Union Corporation, Verona, PA

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